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SEP - 4 1935

COMMERCIAL CAR JOURNAL

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vol. 50 - Sept. 1934 - Feb. 1936

SEPTEMBER 1935

TRANSPORTATION LIBRARY

New Reo Speedwagon Design Permits Easier Handling in Heavy Traffic

Reo engineers have collaborated with leading truck body designers in producing this unusually compact and easily handled unit for cartage and storage companies.

By employing cab-over-the-engine construction, a body approximately 22 ft. long can be used with the same wheelbase and same over-all length as a conventional truck with 17 or 18-foot body.

Load distribution is ideal on the sturdy Reo Speedwagon chassis. With full rated load, the gross weight of 13,500 pounds is 35% on the front wheels and 65% on the rear wheels.

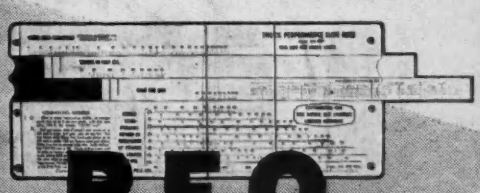
The entire power plant is easily accessible through the front. The 7-bearing Gold Crown Engine and 4-speed heavy duty truck transmission, as well as the full-floating rear axle, are Reo-built.

Reo Trucks and Speedwagons are adapted to every line of hauling. Ask your Reo dealer to explain the new Reo Performance Guarantee which now protects every Reo user. Write for booklet "Buy on Facts."

Illustrated: New Reo Speedwagon, Model 2LM, with cab-over-engine construction in service of Schiffmann Cartage Co., Milwaukee, Wis. - 205 in. wheelbase; body 21 ft. 8 in. long (inside); over-all length 28 ft.

Reo Speedwagons range from ½ to 4-6 tons, tractor-trailer units with correct load distribution and maximum payload capacity. Prices range from $445 up for chassis f.o.b. Lansing, plus tax.

Myers Magazine Chassis Lubrication standard on 2-5 and 4-6 ton models; available at slight extra cost on other models.



REO

SPEEDWAGONS AND TRUCKS

Built and sold to Precision Standards. Use the Reo Performance Gauge in selecting your next truck.

REO MOTOR CAR COMPANY, LANSING, MICHIGAN

Here's Why so Many 1935
DODGE TRUCK OWNERS
Report Saving $65 to $95 on Gas Alone

I picked Dodge of the 3 lowest-priced trucks, because it has hydraulic brakes, full-floating rear axle, and all those amazing gas and oil saving features

J. L. SAMUELS
Douglas Lumber Company
Chicago, Illinois

EXHAUST VALVE SEAT INSERTS... SAVE GAS

Hold compression ... save gas. Resist burning, pitting . . . postpone valve grinding extra thousands of miles.

SPRAY-COOLED EXHAUST VALVE SEATS...SAVE GAS

Cool water, right from the pump is piped direct to the exhaust valve seats . . . lengthens valve life . . . saves gas.

FULL-LENGTH WATER JACKETS... SAVE GAS AND OIL

Keep cylinders cool their entire length; check distortion and wear . . . save you money on gas and oil.

4 PISTON RINGS ... SAVE GAS AND OIL

Dodge gives you 4 piston rings where the other lowest-priced trucks give you only 3. Better compression . . . hold power . . . save money on gas and oil every day.

ALUMINUM ALLOY PISTONS ... SAVE GAS

Lighter weight of this finer Dodge feature means quicker pick-up . . . reduced engine vibration ... less strain on bearings. Saves real money on gas . . . prolongs engine life.

$365*

List prices at factory, Detroit, subject to change without notice. Special equipment, including dual wheels to fit year models, extra. Time payments to fit your budget. Ask for the official Chrysler Motors Commercial Credit Plan. (Dodge Passenger Cars $645 and up).

CHECK Dodge features and you will see for yourself why owners of the 1935 Dodge trucks are reporting such astonishing savings. Users everywhere say that the saving on gas alone often runs from $65 to $95 per year. But that's only the start! There are many other ways in which Dodge trucks save you money. Genuine hydraulic brakes stay equalized, save you money on tires, brake relining and adjustments. Full-pressure lubrication saves wear, cuts repair costs. Oil filter saves you money on oil. Full-floating rear axle saves upkeep expense on Dodge trucks. A total of 18 such high-priced features save money for you every mile your truck is driven. And only Dodge gives you all of them, in the lowest-priced field. Before you buy any 1935 truck, see your Dodge dealer!

DODGE DIVISION—
CHRYSLER MOTORS

DODGE COMMERCIAL EXPRESS
—6-cyl., 111¼" w.b. Gives you 18 money-saving features . . . yet priced with the lowest..... $485*

Dependable **DODGE TRUCKS**

COMMERCIAL CAR JOURNAL

with which is combined Operation & Maintenance

Reg. U. S. Pat. Off.

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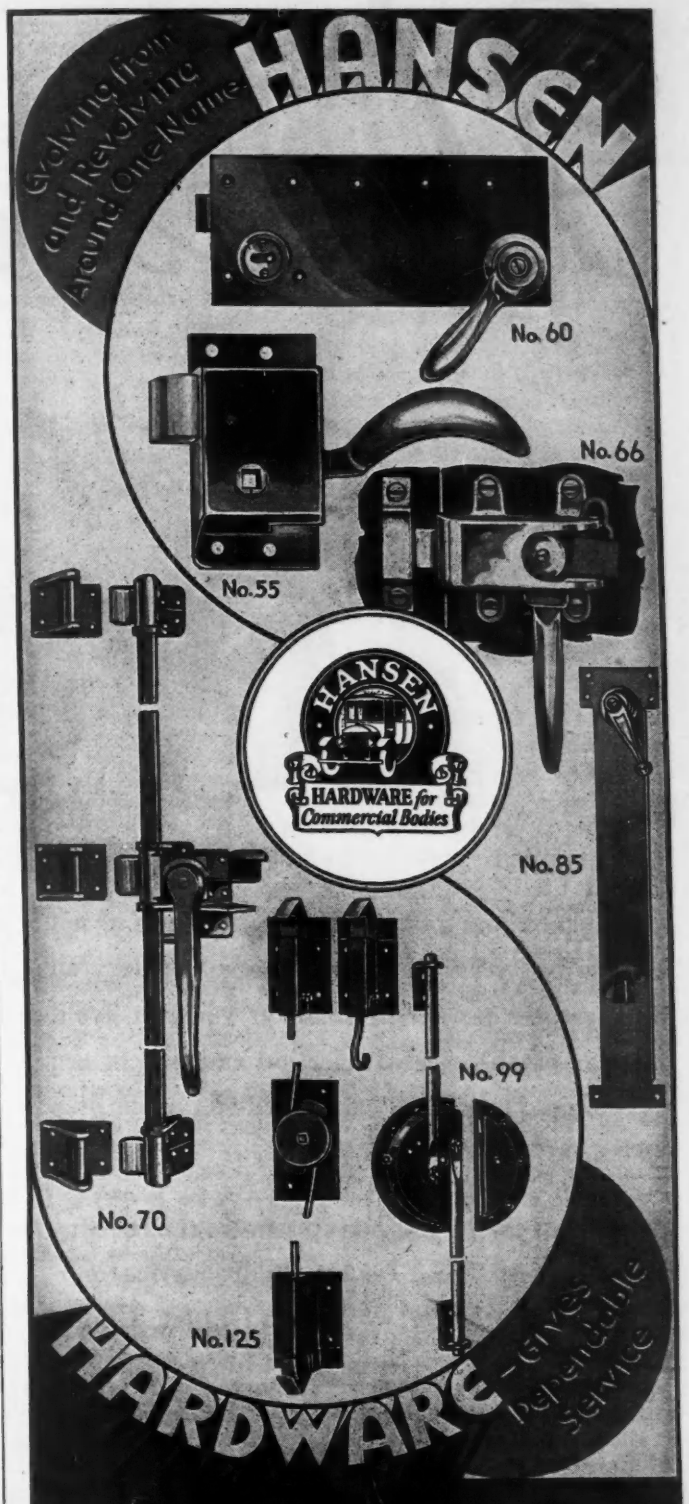


STRENGTH — ruggedness — simplicity—combine to make Hansen Commercial Body Hardware give dependable service.

The more recent products of the Hansen line include End Gate Lock, Slam-and-Take-up Lock, Rotary and Take-up Lock and small-size Refrigerator Door Lock.

Ask for new folder illustrating and describing Refrigerator Door Locks and Hinges, or request Catalog of Complete Line of Hansen Body Hardware.

No. 55 Cab Lock. No mortising required.
No. 60 Extension Lock. One piece. No loose parts.
No. 66 Refrigerator Door Lock. Slams. Takes up. Compresses.
No. 70 Refrigerator Door Lock. Lug-leverage action.
No. 85 Window Regulator. Rust proof. Straight-up lift.
No. 99 Rotary Door Lock. Draws doors solidly together.
No. 125 Slam-and-Take-Up Lock. Makes doors rattle proof.

A. L. HANSEN MFG. CO.
504 Ravenswood Ave., CHICAGO, ILL.

Here's a TAX you can AVOID

Taxes took one dollar out of every three of net income last year. But your vehicles can levy an even *greater* tax on profits. Yet you can avoid *that* tax by the careful selection and proper use of fuels and lubricants exactly suited to *your own operating conditions.*

Many of the largest bus systems in the country have standardized on Texaco. Public Service Company of New Jersey, Greyhound Lines, United Electric Railways Company, Chicago Surface Lines, are more than great names. They are dependable assurances that Texaco can help you to improve your operating efficiency and achieve bigger net profits.

Reduced Operating Expenses

Excessive expense for maintenance, engines out for repairs, parts to be replaced, etc., are penalties that may follow the use of unsuitable lubricants. Texaco can provide you with a motor oil that will help you avoid such penalties. And many well-known operators are proving that such savings far outweigh the price per gallon.

Improved Operating Schedules

Marfak has made unsurpassed records on many systems. Marfak is a superior grease-type lubricant especially efficient for buses. In grease-type uni-

TEXACO TEXACO **tested**

REFINERY TESTED FOR UNIFORMITY . .

Vol. L No. 1 COMMERCIAL CAR JOURNAL SEPTEMBER, 1935

The Overload

A Load of Paid Promises

IN this issue we make good our promises. A long time ago we said we would keep you up to date on changes made by states in their size and weight restrictions. We meant it when we said it sometime back around March, 1934, but we had no idea that we'd keep you waiting so long. For the delay you can blame State Legislatures. They remained in session too long. And we couldn't begin the revision until the legislators, after busying themselves relieving others, had gone home to get some relief themselves. You'll find the revised chart on a special insert following page 24. Reprints are available.

Payload Pet No. 2

ON this same insert you will find the Motor Carrier Bill in a specially edited form. Every reader interested in Federal regulation will find this a handy reference. It is not an analysis of the bill; it is the bill itself, briefed to retain the most important provisions. In case you're inclined to complain about the size of the type we were compelled to use, you'll have to be content with our apology. Space limitations forbade the use of anything above 6-point. Anyway that's another promise fulfilled. We wonder if anyone will appreciate the service enough to write and say so?

Payload Pet No. 3

LAST month we promised to give you a Speed Chart. If you're looking for it and are in a hurry to find it, turn to page 32.

On the Trailer

IN the rest of this issue you'll find plenty of variety. Fleet Operator Bennett dusts off the subject of equipment replacement and explains the system used by Associated Oil Co. Fleet Operator Rodda gives his ideas on operation and maintenance, ideas that have hatched hundreds of dollars in savings for the poultry and egg farmers' cooperative that employs him. Coming East we pick up a meaty interview with Fleet Operator Kramer who has done more in the way of redesigning trucks to meet his operating requirements than most operators you know. On the way East we picked up a brief yarn from Garage Superintendent Muenzer on the use of masking compounds in lowering lettering costs. If you don't use masks you'll find this an important economy tip. The I.C.C. set-up to administer Federal regulation is set down by our Washington correspondent. There's nothing sickly about his account but he had to forget a bad case of ptomaine in order to make this issue's deadline. The show must go on and the deadline must be met. And you'll be doing yourself an injustice if you overlook the article on driver training by a "mental engineer"—a doctor who will convince you of his wisdom when you read that he questions the wisdom of operators in giving vehicles 90 per cent of attention after the purchase, while giving drivers only 10 per cent of attention after their selection, when, as most everyone knows, drivers cause at least 90 per cent of the accidents, and vehicles cause less than 10.

Giant Boulder Dam type trucks weighing 60,000 lb. roll up and down and all over the strippings at Frackville, Pa., bringing out coal for Hill and Suenders. Terrain conditions are the road to ruin for tires. But can U.S. Royals take it!

Acknowledgment

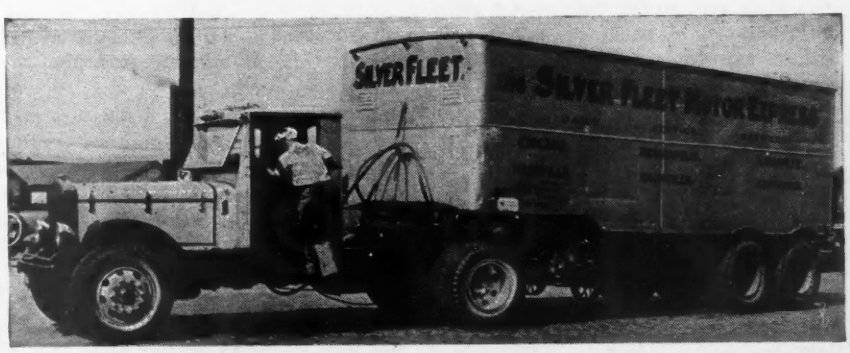
FOR the Size and Weight Restriction Chart we are indebted to the National Highway Users Conference which prepared it exclusively for COMMERCIAL CAR JOURNAL. The conference shortly will publish a sizable book giving detailed information on sizes and weights. The data will be displayed graphically by states. It will be ready about Oct. 1 and a nominal charge will be made for it. The book will be a yearly affair.

Rustleteering

FOR all you know that succulent steak you had for dinner yesterday may have been bootleg beef. The New Deal practice of paying farmers for not raising cattle has helped to send the price of meats sky-high. That's not news to you non-vegetarians. But it may be news that this New Deal in economics is matched by a New Deal among cattle rustlers out West. Today the rustlers use trucks, get the stolen animals to market immediately and dispose of them before their loss has been discovered. And the rustlers, we hear, are specializing. There are calve gangs, cow gangs and steer gangs. Bootleg barons apparently have turned from beer to beef.

Count by California

OPERATORS in the state of California are giving trailers a big play, according to a transportation survey made by the Department of Public Works of which Earl Lee Kelly is director. Since 1929, according to published results, trailer registrations have



After putting this Mack through a 400,000 mile service act running between Louisville and Chicago, the Silver Fleet Motor Express, of Louisville, Ky., equipped it with a Cummins diesel and is all set for another fling at hauling 30,000 lb. payloads

THE OVERLOAD

increased 85 per cent whereas truck registrations have increased 31 per cent. As a result of questioning 32,400 truck drivers, it was determined that the average miles traveled by trucks without trailers was 78 miles, and trucks with trailers averaged 128.6 miles.

Everybody's Lobbying—So?

IF you get a chance tell your Congressman and Senator that it would be a good idea to use some of that $4,800,000,000 works relief fund in the building of a coast-to-coast super-express highway with feeder roads reaching out to every part of the country. The idea is being talked up in Capitol circles.

Did We "Fuel" You?

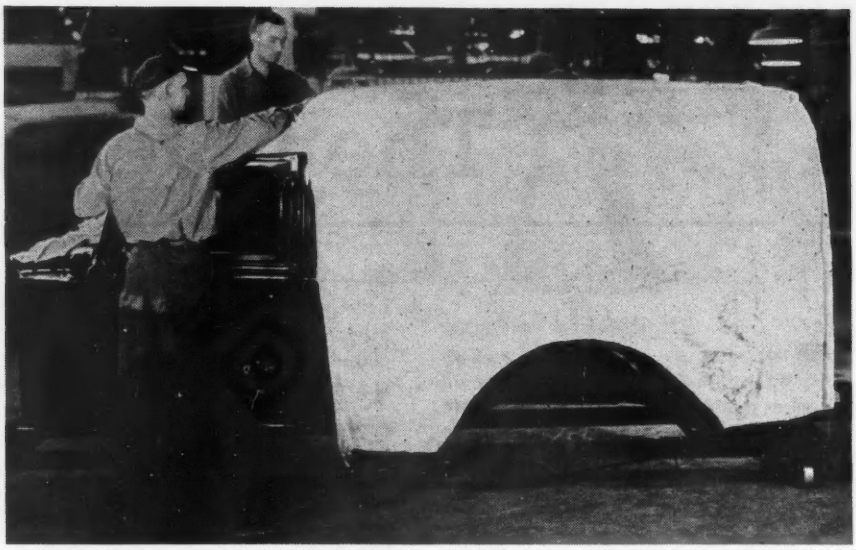
STRIKE us pink for the bloomin' blunder. Speaking of the cross-country run by the small Cummins Diesel in the August issue we referred to "gasoline consumption." We hope it comes as no news to you that we should have said "fuel oil consumption." In fact, we know you gave us the laugh and did your own proofreading. Sadly we pay the penalty of being right so often that molehill mistakes look like mountains.

We Cover the War Zone

ETHIOPIA is in the news. Have you any idea of the condition of transportation in Emperor Haile Selassie's kingdom? No? So we'll tell you. The country covers 350,000 sq. mi. That's roughly eight times the size of the state of Pennsylvania. In all of that area there are only 65 miles of hard surface roads and 1150 miles of dirt roads. The usual means of transportation is by mule—the same as it was in the days of Balkis, Queen of Sheba. And get a load of this: it takes a 100-mule caravan to pack the same load that we carry on a 10-ton truck in this country.

Tip for Ethiopians

MARMON-HERRINGTON reports a test with one of its Ford V-8 all-wheel-drive adaptations that produced remarkable results. The model used was the B5-4 with a rated gross capacity of 8400 to 13,200 lb. Pulling a trailer, which gave the combination a total gross weight of 21,370 lb., the unit traveled a 250-mile route in southern Indiana at an average speed of 30.8 m.p.h. There were no failures of any kind. Gasoline consumption was 5.3 m.p.g.; oil consumption was less than 1 oz., and water consumption was only 1.75 pt.



Bright bodies of a high bake lustre with synthetic enamel come out of the paint booth at the Dodge truck plant wearing this "overcoat" for protection. Bodies, doors and sheet metal parts are so shielded until the processing is complete.

Diamonds for Drummers

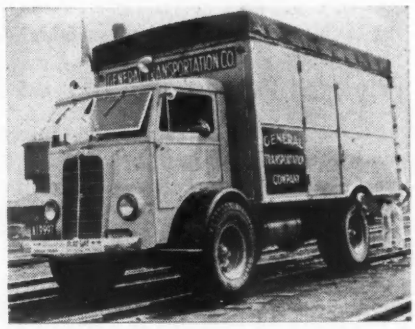
WITH the coming of Federal regulation interstate operators are in a frame of mind that should be capitalized by equipment salesmen. During the several weeks our conversations with large operators revealed the fact that they were going in for replacements. The replacements consist of new trucks, gasoline and Diesel both, and new trailers featuring weight-saving materials. The operators feel that, at last, their business can enjoy stability and they are preparing to cash in on it. And the one sure way to cash in on it is to have proper equipment that costs the least to operate.

Mind Over Matter

WELL-KNOWN metallurgist—don't discount his statement just because he happens to be vitally interested in aluminum—says that the savings in weight over the next 10 years due to the introduction of the new modern buses and trucks will be tremendous, and that the movement should be more rapidly accelerated by the enlightened efforts of engineers and manufacturers.

Loading the Tailgate

WE'RE always ready to promise you something. So next month you may expect an article that surveys the present status and future trends in Diesel fuel taxation. This will end all the guesswork that has been indulged in during the last five years. Also the results of a cylinder reconditioning survey in which more than a hundred of the largest operators in the country participated. We went after practical information and you'll get it just that way. We combine business with pleasure in an article that will tell you how trucks cater to the horse-racing circuits. It's right from the feed-boxes of Pimlico, Bowie, Laurel, Aqueduct, Jamaica and Belmont. You men who can't resist slapping an occasional two-spot on the nose of a nag will eat it up. And you men who tolerate this form of gambling, or who look upon it as a vicious habit, will find it very interesting reading. It's the story behind the daily races. They're off!—and so are we.



Hendrickson built this rail-road truck for the General Transportation Co., Boston, for operation in Ohio. It carries special Goodrich truck tires mounted beside steel flanged rail wheels. The unit runs off and on; that is, off the highways and on the rails or vice versa.

Ears to the Ground

INFORMATION WHICH IS INSIDE, ADVANCE OR JUST UNUSUAL

Scoop (If True)

A nationally syndicated newspaper column reports that one, Henry Ford, has in his possession a new engine with a 6.5 to 1 compression ratio and a new low-priced Diesel truck. A number of other news hounds have hazarded similar opinions but have qualified them with such terms "it is alleged" and "it is reported," but this one seems quite positive.

Butane Progress

Some time ago a Coast carburetor company turned its thoughts and activities to butane as a motor truck fuel. This state of affairs has resulted in a new butane gas saver with a shiny new patent number going on the market in the very near future.

Why Stop With Trucks

Just so that you will have all of the butane news, this department informs you that another butane accessories manufacturer invaded what to a Coast dweller must be the East. He is at the moment lingering in Detroit to convince some passenger car manufacturers that butane is a desirable fuel for passenger cars.

The Carburetors Are Coming

Last month some advance dope on a new carburetor was given on this page. This month we have information that there is still another carburetor by another company to come. There is nothing specific on this one as yet, but you should know the details in about another month.

Air Always Available

At the slightest indication from a signal device on the instrument board that there is a drop in tire pressure, the driver can inflate the tires to correct pressure while the truck is in motion or standing still by merely pressing a button —if the vehicle is equipped with a new gadget made for that purpose. This new equipment eliminates the periodic tire inspection for inflation and the human element involved, the foreman's anxiety, the driver's alibi and perhaps the operator's financial headache. If you want to know all about it all you have to do is check A on the coupon and the mailman does the rest.

Just Wait and See

One engine manufacturer feels that the experimental work now in progress will result in oil-burning conversion units for gasoline engines so much more interesting to the operator than anything along this line so far that he will not permit us to tell you anything about it until the testers get through with it. It is indicated that this will be in about 30 days.

Mirror Finish

Using equipment capable of measuring one-millionth of an inch the Timken Roller Bearing Co. research staff, aided and abetted by a couple of professors, were unable to find a flaw in a new process of surface finishing. The result is that this new finish is being adopted on all Timken bearings as quickly as the required equipment can be set up.

R.I.P.

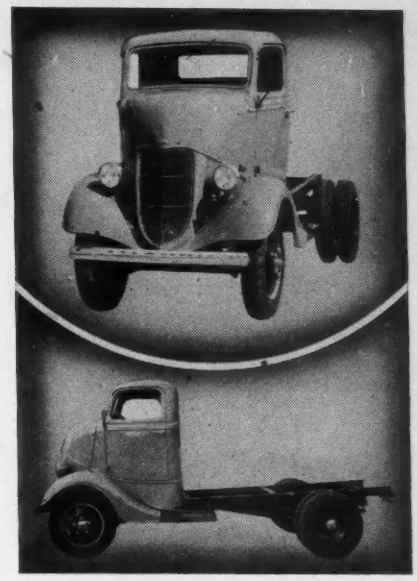
A British manufacturer has laid to rest for all time in his particular ken the alarm over high maintenance cost of Diesel engines. He rebuilds gasoline and Diesel engines of his own manufacture at about 60,000 miles for exactly the same amount of money. And then just to show his contempt for a popular fallacy he adds as an after-thought that he makes more money rebuilding the Diesels.

Airman's Offer

The advance dope on a new air brake for light trucks which will soon be available complete and installed for $139, is all bundled up and ready to be sent to you if you indicate that you would like to see it. Check "D"

What! No Bounce

A new lacquer developed by the Roxalin Lacquer Co., Elizabeth, N. J., was applied on a piece of live rubber. When the rubber was stretched to the breaking point the lacquer did not chip or brittle off. So far this stretchable paint comes only in clear and aluminum color.



The Highland Body Mfg. Co. version of the Ford camel-back locates the cab forward and somewhat higher than a conventional model. In place of the 11 ft. 4 in. body on the 157-in. wheelbase, a 14-ft. 2-in. body may be mounted without changing the weight distribution.

For Cool Cargoes

A very large automotive parts company will soon offer a power take-off and compressor drive for refrigerator bodies. It will have a constant speed and provision for getting power from electric sockets when the truck is in the garage. In addition, another one of our household refrigerator companies is experimenting with truck refrigeration.

Blower Power

A large bus company is in the process of finding out if a supercharger application can be made practical on a heavy-duty engine. By a process no more devious than trying a bus with a smaller than standard engine equipped with a supercharger under every conceivable condition they expect to find out. Fleet operators are hereby given permission to "view with interest" this experiment.

FREE FOR THE CHECKING

(Check and mail to The Editor, Commercial Car Journal, Philadelphia, Pa.)

- ☐ **A—Literature on Continuous Inflation Device**
- ☐ **B—All Available Literature on Masking Materials**
- ☐ **C—Details on new Tachometer which has locking maximum speed indicator**
- ☐ **D—Dope on air brake for light trucks**

Name .....

Title .....

Firm Name .....

Address .....

No. Trucks Operated .....

By JAMES C. BENNETT,
Manager Automotive Dept., Associated Oil Co., San Francisco, Cal.

" . . . after a time a truck, through obsolescence

Replacement of Trucks Can Be Made a System

"Every Truck An Asset" is Achievement of Operator Bennett Whose System of Determining Operating Costs, Depreciation Rate, Potential Life and Trucks to Be Replaced Keeps the Fleet Modern

RECORD OF TRANSFERS				CHASSIS DATA	
DATE	DEPARTMENT ASSIGNED TO	CODE NO.	CH'P NO.	O. M. NUMBER	
				CHASSIS NO.	
				YEAR & MODEL	
				NO. CYLINDERS	
				TRANS. SPEEDS	
				GOVERNED MPH	
				MFG'S TONNAGE	
				A. O. CO. "	
				GEAR RATIO	
				UNLADEN WT.	

DATE INSTALLED	MT'G NO.	TYPE MOUNTING	SIZE OR CAPACITY		PORTABLE & AUX. MOUNT'GS	
			COM'PT 1		MTG. NO	CAPACITY
			" 2			
			" 3			
			" 4			
			S. TANKS			
			HOSE-RL	PUMP		
			BBL. CR'ER	TR'LER YOKE		

VEHICLE NO.	CLASS NO.	TIRE DATA			D-DUAL	DATE PURCHASED
		FRONT	MIDDLE	REAR		

MODERNIZATION of equipment, according to my creed and system, means more than buying two or three new trucks once in a while, or specifying the latest models when you buy, or installing all of the latest gadgets and devices throughout your fleet—far more than any of these.

It means, in the Associated Oil Co.'s book, a complete and thoroughly-worked-out program, constantly in operation and constantly supervised and maintained, for rejuvenation and replenishment of the various units of the fleet at various times, as well as for a continuously functioning regularity of change that keeps the automotive equipment modern and in the best and most efficient condition.

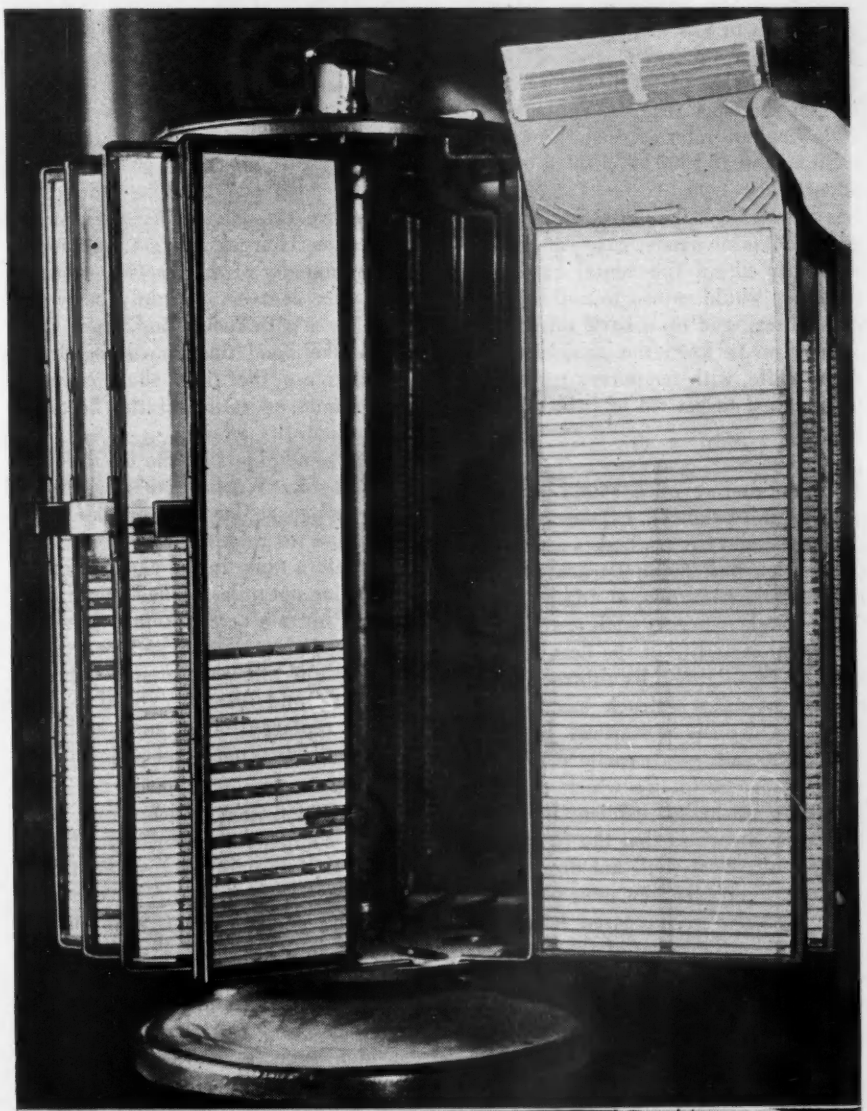
We do not accept, at all, the theory that as long as a truck will run it is worth keeping and using. Our idea is that after a certain time, a truck, through obsolescence alone, if nothing more, is more of a liability than an asset. I shall discuss this feature more in detail later.

WE keep records showing the cost, performance and so on of all of our trucks, so that we know everything that could be desired concerning them, including an indication of the method of arriving at the number of new vehicles required yearly and other financial factors connected therewith. A break down of the cost record is given here. Columns referred to are columns on the cost chart—not shown.

The first column of the chart contains the class number of the particular vehicle. The second column gives the total number of miles traveled in the previous year, or, in this case, 1933. The third column gives the depreciation rate, which is obtained by dividing the total investment, less the anticipated salvage realization, by the total original potential life of the truck, the result in this 1933 chart having been 3.7 cents.

alone, is more of a liability than an asset"

IN THIS, his third article, Operator Bennett gives his ideas on a method of replacement and modernization of a truck fleet which he claims to be in the best interests of economical operation. This system, enabling him to determine when replacement is necessary, is based on (1) intensity of use of trucks, (2) average time of life of trucks, (3) mileage life of trucks and (4) a method for making replacements from current revenue that is not a capital outlay. Here are the details.



Left—One of the forms on which operating data relative to modernization is recorded. Top—The index file where records are kept has a revolving feature. Above—As a truck is serviced a record of the job is filed

Column four indicates the percentage of increase in price, if any, for the vehicle over the cost for the previous year. Column five is for the figure arrived at by taking the sum of columns three and four. Column six shows the total amount to be expended for new vehicles, which is reached by multiplying the figures in column five by those in column two. Column seven reveals the potential life for vehicles of the various classes in thousands of miles. Column eight contains the estimated cost, when ready for service, for new vehicles for the new year. Column nine discloses the number of new vehicles which will be purchased in the incoming year, a figure determined by dividing the number in column six by that in column eight.

HERE is an example: Take class No. 5, which appears in column one in our office chart. The second column shows that the cars in that class traveled 1,910,949 miles. Column three gives 3.7 cents as the depreciation rate for 1933. Column four indicates that .74 of one cent was the estimated increase in price for 1934 over that of 1933. The sum of these two columns was 4.44, for column five. Thus, in column six, the total amount to be expended for new vehicles in that class for 1934 was $84,846.14. The potential life for vehicles of that class (column seven) was 100,000 miles. The estimated price for new trucks in class No. 5 for 1934 (column eight) was $4440. The number of new vehicles in class 5 for 1934 (column nine) was thus set at 19.

ANOTHER example: Cars in class No. 1 traveled 1,071,272 miles; the depreciation rate was 1.6 cents; the increase in price was .32 cents; the sum

REPLACEMENT OF TRUCKS CAN BE MADE A SYSTEM

of these last two figures was 1.92; the total amount to be expended for new vehicles in that class that year was $20,568.42; the potential life for vehicles of that class was 50,000 miles; the estimated price for new cars in that class was $960; the number of new vehicles in that class to be purchased that year was 21. It will be observed that by dividing the number of miles run during the preceding year by the potential life per vehicle, in miles, one has a check on the result of dividing the total estimated expenditure by the average cost per vehicle.

WE have set the maximum time for the average life of the heavy trucks, for our service, at 8 1/3 years. I use the figure 8 1/3, instead of an even 8, because it is easier to figure that way, since 8 1/3 years is an even 100 months. (You see, I am honest in my confession.) This figure also is chosen partially without regard to mileage, for while of course extent of mileage affects the life of a truck, it is not the only consideration. We figure that is about the length of time in which sufficient changes will have taken place in the manufacture of equipment to render it obsolete from our point of view. For instance: it took from three to five years for the old solid tire to give way to the high-pressure pneumatic and nearly five years more for that to be superseded by the low-pressure pneumatic, or balloon tire. It should be understood that the figure of 8 1/3 years is a maximum for the anticipated life. Lighter trucks are not expected to remain in use for so long a time, and many—in all classes—run substantially longer before they are retired.

For our operations, I find that the larger trucks should average at least 1500 miles a month and, on that basis, in the prescribed 100 months should do at least 150,000 miles. Thus we fix the average life of the heavier trucks at 150,000 miles.

BUT the matter of intensity of use enters into the problem. If it should develop that a certain class (as to size) of trucks can be used with sufficient intensity to average 50,000 miles a year, so much the better. In such case the potential life might be set at 200,000—or may be 300,000—miles and the truck would become "worn out," because of the number of miles traveled, before obsolescence has "set in." The effect, of course, would be a substantial lowering of the charge for depreciation reserve.

The records we keep along this line are invaluable in determining the extent of repairs to give to a truck. I said in a previous article that our traveling inspectors are permitted to authorize repairs up to $75 without authorization from higher up. For anything above that figure the determining factor is largely the office record. Suppose that, following an internal inspection, it is estimated that $500 or $600 should be spent. The record shows that the truck has traveled 148,000 miles and that the present maintenance expense is substantially above the rental rate. We probably would refuse to authorize the expenditure and send back word to the supervisor to keep the vehicle in use for a while, with temporary repairs, as we planned to get rid of it in the near future.

IN the interest of a sound economy and a well-balanced expense budget, the Associated Oil Co. makes a practice, in addition to keeping a truck only for its prescribed lifetime, of adding to the fleet enough new cars each year so that the prospective life of the fleet remains at a constant figure. By subtracting the number of miles a truck has traveled from its original prescribed life—say of 150,000 miles—we easily can arrive at the prospective life which remains. Therefore we make sufficient new purchases each year so that the future life of the entire fleet shall not drop below a certain figure, the new ones providing the prospective or increased future activity to take the place of those retired and to balance the decreasing longevity of those that remain.

A feature attendant upon the replacement of vehicles, which is not generally accorded recognition, though it is probable that it is recognized, is that their replacement does not require a capital outlay. Any additions demand capital, but replacements call only for *cash from* current revenue. The amortization of the investment has been accomplished through the medium of a continuing charge against operations, and has created a revolving fund for use in maintaining the fleet at a practically constant level of potential life. When the capital investment placed in the erection of a building has run a certain number of years and the building has so deteriorated that it is useless, the capital investment is gone. The same thing would apply to an automobile fleet if it were purchased at one time and as a capital investment, but when it is constantly renewed and from current revenue, the value remains constant and with no drain on the company's capital.

Our depreciation reserve is about $1,700,000, with an investment of, say, $2,250,000. These remain constant, virtually, or else something is wrong with the method. Our annual replacement budget approximates $300,000—say 17 or 18 per cent of the total depreciation reserve. This portion constitutes a revolving fund which is being drawn upon constantly—and maintained by the continuing current depreciation charges against operations. The remainder of the reserve—some 82 or 83 per cent—may rightly be looked upon as a permanent fund, since there is no likelihood that it will be drawn upon unless the time shall come to discontinue operation of the fleet and to liquidate its affairs.

It is something like the operation of refining oil. We have to buy enough crude oil to replace the oil taken out of storage for refining. We are putting miles into a tank, in the case of trucks, and taking out miles. The amount must be kept up to a certain total. It would be exceedingly unwise and poor business sense to allow the total to decrease materially and then to expend a large sum in replacement of units. That is not sound nor economical policy.

I READ not long since of a large eastern company that was spending a million dollars or more for new trucks for its extensive fleet. The company made the announcement with quite a flourish, indicating its progressive attitude and its determination to keep its fleet up to date at almost any cost. "Almost any cost" is right, for I do not consider such a move indicative of progressiveness, or of sound economy. A million dollars is not picked up every day, nor called into being with a careless gesture. It is not apt to come out of current revenue and profits, unless those profits are enormous, but becomes a capital outlay. It is money that must be borrowed, or provided for investment, and interest must be paid for it, or at least reckoned in the cost. Now, instead of being a capital investment, the cost of these cars should be an item of current expense, taken care of in each year's budget. No doubt the officials of that company said to themselves, after this big purchase: "Now we are taken care of for years to come. We won't need to worry for a long time." After which it probably will proceed to let its fleet run down, without new yearly purchases, for years and

(TURN TO PAGE 52, PLEASE)

OPERATOR MUENZER uses a mask when painting, not to save his face or to hide it, but to save expenses by covering the lettering on the sides of his trucks. Masking is no burlesque stunt, and we have this operator's word for it that he now replaces gold lettering or transfers only once in about five years while he paints his trucks every 12 months. Here are details of the method that cut his lettering costs.

For additional information on masking materials check "B" on page 11.

Masks Lower Lettering Cost

Page Dairy Makes 85 Per Cent Saving On Lettering by Using Masking Compound as a Protection When Painting

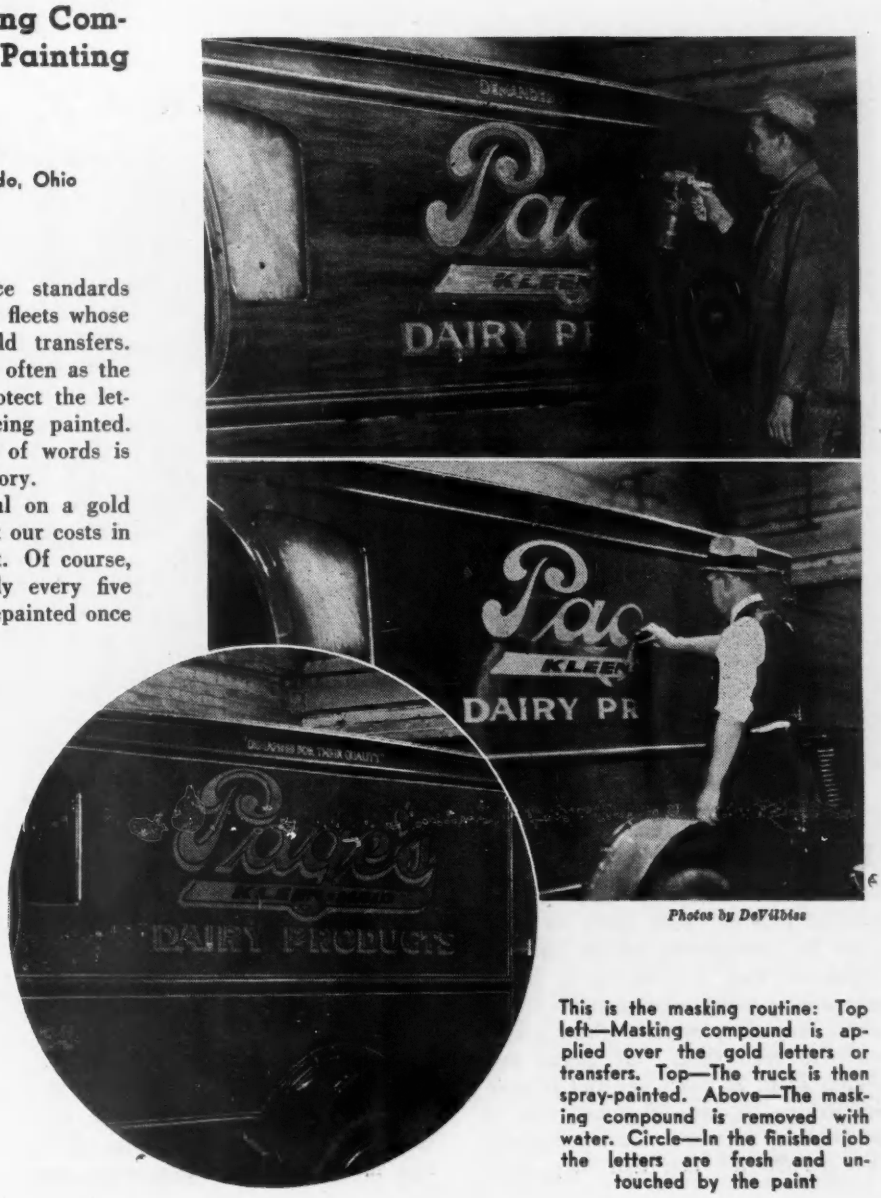
By A. B. MUENZER
Garage Superintendent, Page Dairy, Toledo, Ohio

THE problem of keeping appearance standards high and costs low has been a big one for fleets whose trucks have either gold lettering or gold transfers. The gold does not need to be replaced as often as the general paint coat, but the trick is to protect the lettering while the rest of the truck is being painted. Brushing around a whole word or group of words is a long, tough job and usually unsatisfactory.

Figuring the cost of labor and material on a gold lettering job as $35 per truck, we have cut our costs in that line by a little more than 85 per cent. Of course, the lettering must be done approximately every five years but the body of the truck must be repainted once a year. Here is how we do it.

After the truck has been sanded and is ready for the first application of paint, a mask coat (of masking compound) is brushed over the lettering. This is impenetrable to paint, but removable with soap and water. Then, in whatever color or finish you wish, the body of the truck is spray-painted. The spray method permits the painter to go right over the surface of the lettering without brushing away or disturbing the protective coating over it.

When the painting job is completed, the paint dry, and the truck ready to go back into service, a bucket of warm water, some soap, and a rag, combined with a few minutes of man-power, bring the lettering out as good as new. They may then be outlined by any competent painter in a very short time.



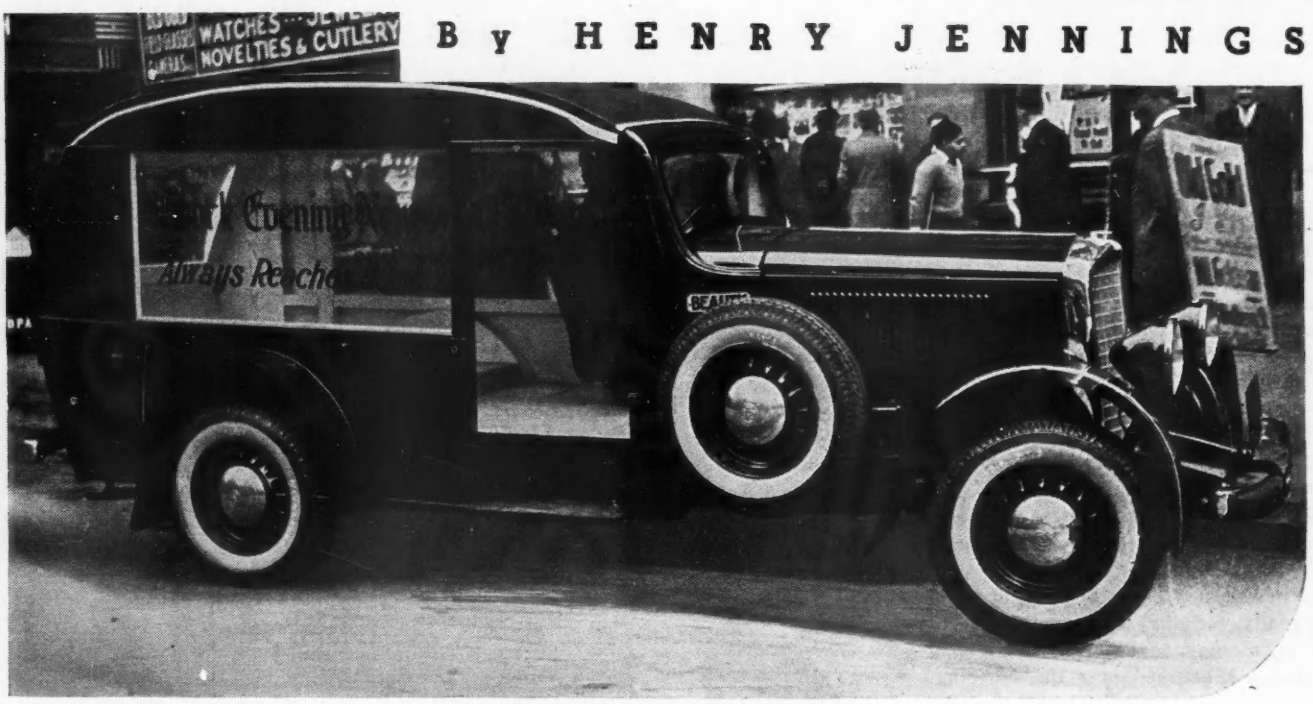
Photos by DeVilbiss

This is the masking routine: Top left—Masking compound is applied over the gold letters or transfers. Top—The truck is then spray-painted. Above—The masking compound is removed with water. Circle—In the finished job the letters are fresh and untouched by the paint

Advertising Pays Even When You're Peddling Papers

A Front-Page Story of How Operator Kramer Designed His Trucks to Combine Appeal With Operating Economy and Delivery Efficiency

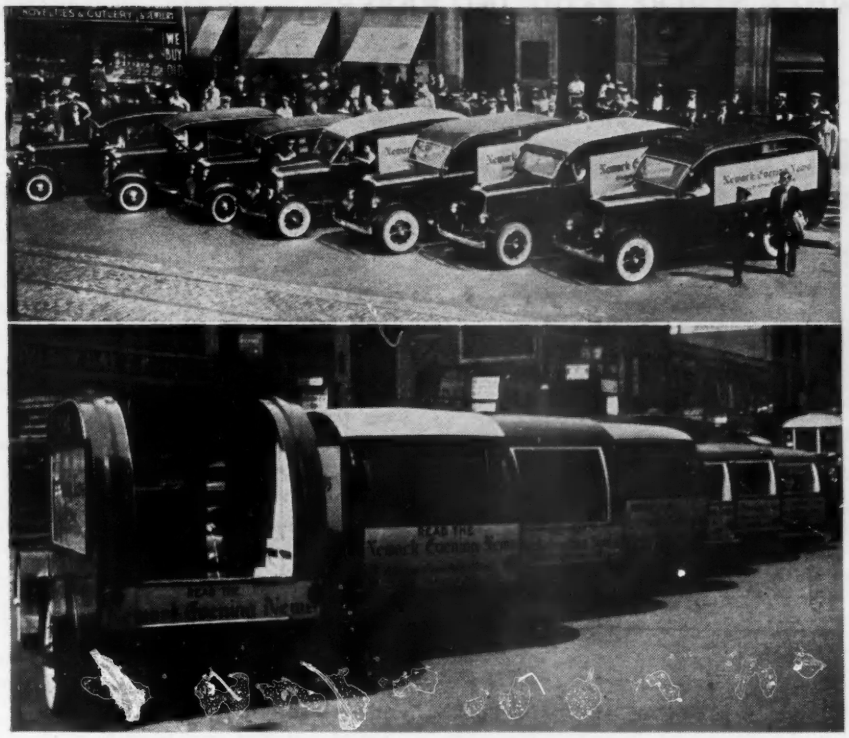
By HENRY JENNINGS



Beautiful—and not at all dumb—is this truck designed to appeal and give maximum service. Note the glass sides for light and removable fenders for plowing through snow

WHEN Louis A. Kramer discovered that he could carry no more than 250 newspapers on his back he began to look around for a better means of transporting newspapers from where they are printed to where people want to read them. He began this search about 25 years ago and at present writing he owns 40 trucks, nine of which have so many unusual features that despite the fact that they cover the same routes daily they never escape attention and a craning of necks follow them wherever they go. And still the search is not ended. At times Mr. Kramer permits himself to think that he has at last reached his goal of the best in newspaper transportation possible, and that if he could get the entire fleet up to the standard of his newest design he would be all set. And then, philosophically, he admits that he will continue to change his design as he learns of new advantages and that the fleet will never be standardized.

The unusual features of the trucks of this fleet are of Kramer and Grof design and are Grof built. Grof is a body builder on the Kramer payroll



CARRYING newspapers on his back taught Mr. Kramer that the human being is not a very satisfactory beast of burden. Observing the operation of his fleet with general purpose bodies taught him that while trucks are an improvement over the human being they are still not satisfactory until they are tailored to fit individual needs. He started out to put merchandising appeal, economy and ease of operation into a newspaper fleet. He has all of these features in some of the most unusual trucks that ever delivered a newspaper.

Top—A line up of trucks operated by South End Express for the Newark News Kramer and Grof designed. Above—An eyeful of the trucks in reverse showing the curved back design, without tailgate. Note construction for sliding roof in truck on left of line

who built all of the bodies. The striking trucks are the nine newest additions to the fleet. The chassis of this fleet are the products of several manufacturers. Mr. Kramer believes that all manufacturers turn out good truck chassis and sees no reason for confining himself to any one make.

But let's get back to the history of these unusual trucks.

About 25 years ago Mr. Kramer owned a small store on Orange Road, Montclair, N. J. One phase of storekeeping was the operation of a newspaper route to supply the customers with the Newark Evening News. There were 30 subscribers. Being ambitious the young Mr. Kramer built this route up to 250 subscribers and then found that there were definite limits to further increasing this business. He could not carry any more papers.

LOOKING around among other news dealers, Mr. Kramer found that carrying an overload of papers around was not satisfactory to either the dealer or the subscriber. The dealer's "back was broken," as Mr. Kramer describes it, before he started distributing the papers and the strain on the physique did not help his disposition and consequently his relations with his customers. So Mr. Kramer bought a wheelbarrow and started out to get new customers to help pay for his transportation overhead. Thus did he solve his first transportation problem.

To help pay for this extravagance he took on the distribution of the New York Times on Sunday. He must have been an excellent news dealer with some vision of what was to come because it was not long before his newspaper activities with the Newark Evening News and the Sunday Times outgrew his ability to load and push a wheelbarrow. In solving the next transportation problem Mr. Kramer plunged wildly. He bought a horse and wagon. Then, when there were complaints about the time that the Times got to Montclair for distribution, Mr. Kramer got up long before daylight on Sunday and harnessed old Dobbin and went to New York after his own supply of the Times.

It did not take long for the word to get around that Kramer's subscribers got their Times earlier than did the other subscribers and it was not long until Mr. Kramer found that he was hauling newspapers to distribution points for other dealers.

Now hauling newspapers at that time was a morning and evening job and there was the best part of the day in between. If you are handy with a pencil it will not take you long to figure out that you have to haul a lot of newspapers to make a living and so Mr. Kramer tried to figure out what he could do during the day to make his horse and wagon pay. He decided to try his hand at hauling a few trunks and to that end had some calling cards printed. Since he was located in the south end of Montclair, he called himself and his horse The South End Express Co., and that is the way the South End Express Co., which now distributes 150,000 copies of the Newark Evening News daily in seven editions over about one-third of the state of New Jersey, was founded.

JUST as there were limits to the number of papers Mr. Kramer could load on a wheelbarrow and then make it move there were limits to the number of papers a horse and wagon could handle, so the next step was two trucks which somehow did not seem like so much of a gamble to Mr. Kramer as did the horse and wagon. Perhaps by now the business was beginning to assume some solidity and the purchase of two trucks seemed to be logical progress. Anyhow we have it from no less an authority than Mr. Kramer that the two trucks did not seem so much like a speculation as the horse and wagon.

Nothing is more sure than the calendar and the newspaper for each day and while it was the plan to keep both trucks fairly busy still the work had to be arranged so that in case of emergency one truck could do the job alone. At the time these two trucks were bought the truck industry was still in the stage of telling the operators when they took a truck into the service station that they would look into the trouble and call the operator when the truck was ready. Mr. Kramer never felt that he was in position to tell the newspaper publisher or the subscribers

ADVERTISING PAYS EVEN WHEN YOU'RE PEDDLING PAPERS

Truck interiors are flood-lighted at night as an aid to drivers making deliveries

that his truck was in the shop and the service manager had not called him yet, so from the beginning he has always had plenty of spare trucks. His present ratio is 40 trucks for 30 regular routes and, of course, there are some special jobs that occupy some of the extra trucks part of the time.

ABOUT the time that two trucks were the main assets of the South End Express Co., the Newark Evening News decided to speed up their delivery schedule and this man from Montclair had established a reputation of getting his papers to the news dealers on time regardless of weather, so he was invited to hold important conversation with some responsible men from that organization. When the conversation was finished Mr. Kramer went out and abandoned all activities outside the distribution of the News. At first he was given an area around Montclair on a sub-contract and from time to time the area grew. In remarkably short time he was the sole contract hauler of the News, an exclusive contract which he holds today.

With his income at a better level than in the old 30-subscriber paper route days, Mr. Kramer bought a rambling house with two acres of ground for his family to live in. When the city home for the fleet proved unsatisfactory Mr. Kramer moved it out to his place in Montclair. The old barn behind the house was converted into the mechanical shop, the paint shop and the body shop. Here the maintenance men work in pleasant surroundings with all of the atmosphere of an estate. Externally the old barn looks about the same with the exception of a new slate roof, but inside you find such equipment as a combination band and rip saw, planer and mitre machinery, a lift, paint equipment and all the usual necessities of fleet maintenance.

There was a driver problem in connection with distributing the Newark Evening News. With all of its seven editions daily except Sunday the News has no use for trucks and drivers before eleven o'clock in the morning and they are finished between six and six-thirty at night. What with time off for lunch and loading time between editions the driver's working time is so short that not one of them could take their week's pay without blushing if they did nothing but drive. The problem has been solved by having the drivers report at nine in the morning. From nine until ten-thirty the drivers wash, lubricate, change oil and tighten their trucks. They are responsible for maintaining the trucks with the exception of repair operations. They, of course, are guided by the advice of Mr. Kramer and the shop men. By this procedure Mr. Kramer is able to hold his mechanical force to two mechanics, Grof the body builder and a painter.

At ten-thirty the trucks leave for the News platform. The drivers have time to eat between the delivery of the different editions. They return to the Montclair home between six and six-thirty.

When these and similar problems began to near solution, Mr. Kramer turned his attention once more to the choice of transportation equipment. He found from watching the drivers load at the platform that the drivers had to crouch in a back-breaking pose during the whole of the loading time. The bundles of papers were slid from the platform to the tail gate where the driver had to put them in their proper location in the truck body. Standing crouched in the body seemed a useless sort of manner of tiring out drivers, so Mr. Kramer had installed what he refers to as a zipper top. It is a hole in the roof that can be quickly and effortlessly covered and uncovered and it permits the driver to stand upright when awaiting bundles during the loading period.

Next the study of transportation brought to light that the bundles of newspapers were stacked in the truck with the name of the news dealer on top of each bundle and that the drivers had to scramble back over the load and then in the semi-darkness of the body interior wasting some time trying to read the labels. To overcome this condition Mr. Kramer started putting windows in the sides of the truck bodies. At first they were up high out of the way and celluloid was used as a pane. Opaqueness did not matter as long as light could be filtered through and the celluloid would not be an accident hazard.

SOON this specialized equipment business took on a merchandising twist and Mr. Grof got busy on another idea. The result was a body with sides completely of glass impregnated with wire to prevent breakage. Floodlights were concealed within the body and the glass bears the legend, "Newark Evening News Always Reaches Home," which is the message Mr. Kallop, the circulation manager of the News, wants the public to read as often as possible. The trucks equipped with the glass sides and the illumination have much the same effect as a circus parade when they hustle the late editions through the darkened streets.

The first truck of this type was lighted by special Edison batteries, but all of the rest are operated from the generator and standard generators have stood up under this use without any trouble. Some of the new streamlined trucks have glass sides and illuminated bodies and some of them do not.

It did not take long to find that tail gates did not fit into the News delivery picture. Papers could not be carried on this part of the truck because they would bounce off and, in addition to that, Mr. Kramer did not believe that people wanted to read damp or soiled newspapers even on rainy days. With the passing of the tail gate it was possible to curve the backs into a stream-

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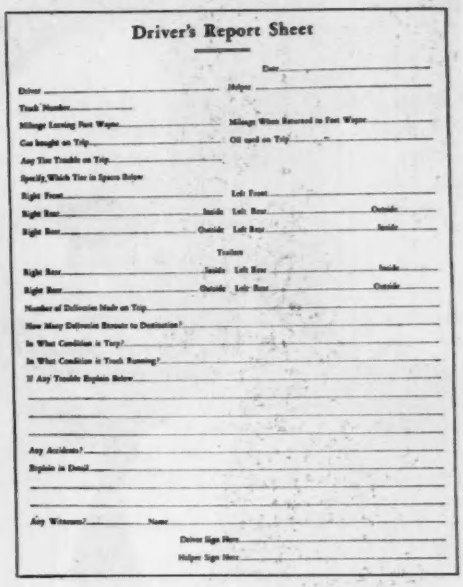
Alvin L. Wade at the wheel of one of his trucks



Driver's Report Sheet

Date

Driver ____ Helper ____

Truck Number ____

Mileage Leaving Fort Wayne ____ Mileage When Returned to Fort Wayne ____

Gas bought on Trip ____ Oil used on Trip ____

Any Tire Trouble on Trip ____

Specify Which Tire in Spaces Below

Right Front ____ Left Front ____

Right Rear ____ Inside Left Rear ____ Outside

Right Rear ____ Outside Left Rear ____ Inside

Trailer

Right Rear ____ Inside Left Rear ____ Inside

Right Rear ____ Outside Left Rear ____ Outside

Number of Deliveries Made on Trip ____

How Many Deliveries Remain to Destination? ____

In What Condition is Tire? ____

In What Condition is Truck Running? ____

If Any Trouble Explain Below ____

Any Accidents? ____

Explain in Detail ____

Any Witnesses? ____ Name ____

Driver Sign Here ____

Helper Sign Here ____

This report is filed by the driver after each round-trip

FROM truck driver to truck operator is just part of the story that distinguishes Alvin Wade, president of the Wade Motor Service, Inc. Among his major achievements is his successful system by which he guarantees shippers "service with safety." Here are the details of this service and safety program that has served his 35-truck fleet so well.

WADE PUT OVER "SERVICE WITH SAFETY" WITH

Drivers' Reports

AND KAYOED "FAILURES" WITH REPAIR SCHEDULES

Round-Trip Inspections in a Fully Equipped Shop Are a Factor in Keeping Accidents and Costs Floored

ALVIN L. WADE, president of Wade Motor Service, Inc., Fort Wayne, Ind., operating a fleet of 35 trucks in Chicago, began his career in trucking service in a very humble way before 1912 as a teamster. But in 1912 he changed to driving a truck for someone else and in 1921 he bought his own 2½-ton dump truck with which he worked for road contractors, and later took to hauling freight into Chicago.

At the very beginning of this venture, which was to take him far in the trucking world, he realized that he must deliver the goods, actually and figuratively, and provide a service second to none. He literally worked day and night, making four and five round trips a week from Fort Wayne to Chicago (it is exactly 158 miles from the present Wade terminal in Fort Wayne to his destination in Chicago.) For a Fort Wayne terminal at the start, Mr. Wade utilized the somewhat dilapidated remains of a former alley blacksmith shop. Within four months his efforts to provide a superior service in motor transport brought such results that he bought another truck, and for it, of course, he had to hire his first driver. His beginning was indeed promising.

In March, 1933, Fleet Operator Alvin Wade's stock took a big leap. First, the Wade Motor Service, Inc., was formed, with Mr. Wade as president, and, secondly, the company purchased the modern brick structure which serves as his terminal in Fort Wayne.

(TURN TO PAGE 25, PLEASE)

Coordinator Eastman (right) who heads the ICC Motor Carrier Division and (left) his man Friday, John L. Rogers, chief of the Motor Carrier Bureau of the Division

THERE may be something magic for motor carriers in the name of Rogers—no matter how you spell it. In the last two years 200,000 of them have learned to know Ted V. Rodgers, spark of their industry, who took the frayed ends of a skein of discord and jealousy and wove them into a strong national organization.

Now comes John L. Rogers (without the "d") in the role of chief of the newly created Bureau of Motor Carriers of the Interstate Commerce Commission, which is charged with the duty of regulating the interstate operations of trucks and buses. The responsibility will rest largely on his shoulders.

No sooner had President Roosevelt signed the motor carrier bill, on Aug. 9, after it had been passed by the House virtually in the form approved by the Senate several months previously, than the bureaucratic wheels started whirring at the Interstate Commerce Commission.

The Commission immediately announced that the regulation of motor carriers would be under a separate division, to be known as Division 7—Motor Carriers, and that a Bureau, under the Division, would carry out the letter of the law. Joseph B. Eastman was designated as chairman of the Division, and it was logical that he should select his trusted friend and coworker, John Rogers, to head the Bureau.

ANNOUNCEMENT of the Motor Carrier Division was no surprise to industry leaders who had been working with the Coordinator and the Commission, through the American Trucking Associations, Inc., to bring about reasonable and effective regulation.

The organized industry had made its support of the motor carrier bill contingent on creation of a separate division. A plan for such a division was embodied in a bill to reorganize the Commission submitted early in the session by the Coordinator. The bill hit a snag and it became apparent long before the end of the session that it had a slim chance of passage. The industry leaders went to the Commission and explained their reasons for desiring a separate division. They were promised that such would be set up, even without mandate from Congress.

The promise was kept with the appointment of Eastman to head the division, Commissioners Frank McManamy and William E. Lee to complete it, and Rogers to head the Bureau.

Rogers and Rodgers may be expected to team up to the industry's meticulous taste. Aside from the fact that both have a common interest in desiring ef-

ICC Creates Separate Bureau for Regulation of Motor Trucks

Motor Carrier Division Will Have Central Staff in Washington Headed by Rogers and District Offices in 15-20 Strategic Places

fective regulation, they have striking, personal similarities. They look enough alike even to be brothers. Both are possessed of strong jaws of determination, limitless energy and unmeasured capacity for work. In respect to the latter, John Rogers probably takes his cue from his immediate superior, the Coordinator. Rogers and Rodgers are about the same age, and both claim the School of Hard Knocks as their alma mater.

The new Bureau chief began his career as a boilermaker's apprentice with the Southern Railway. He followed the mechanical bent of his youth and obtained a degree in mechanical engineering from the University of Tennessee. He entered the service of the Interstate Commerc Commission in 1917, in the Bureau of Locomotive Inspection. Anticipating a broader field of activity, however, he studied law at night and was admitted to the bar. For eight years prior to 1933, when he became executive assistant to the Federal Coordinator, Mr. Rogers was a special examiner in the Bureau of Service. His academic accomplishments also include study of accounting and of motor carriers and their regulation.

ORGANIZING the Motor Carrier Bureau, for the present, at least, is a seven-day-a-week job, running well into the nights. With Mr. Eastman, Mr. Rogers has been busy interviewing scores of applicants for jobs in the Bureau. It seems the country is full of folks who know all about the business of motor carrier regulation and are willing to tell the I.C.C. how to plow this new field.

The plan of organization contemplates a central staff in Washington and a field force having headquarters at several important transportation centers. The Washington staff will be made up of sections dealing with (1) certificates and surety bonds; (2) traffic matters, including rates and tariffs; (3) accounts, statistics and research; (4) formal and informal cases; (5) safety of operation and equipment; (6) enforcement. While the Division will be largely autonomous in dealing with motor carrier problems, it is expected that there will be the closest cooperation between the sections of the Bureau and other departments and sections of the Commission, to the end that the entire jurisdiction of the Commission may be administered in a harmonious and effective manner.

According to present plans, the district offices will be located at between 15 and 20 important centers, each in charge of a district director. Attached to each district office will be a joint board agent, a rates and tariffs agent, an accountant and a number of supervisors. The primary functions of this field force will be to cooperate to the greatest possible degree with those subject to the law and with the State and municipal authorities, in order to bring about a uniform understanding of the requirements and in promoting obedience thereto.

The Division chairman and Mr. Rogers have been

flooded with inquiries from operators and other interested parties, asking for interpretations of the Act and inquiring when forms to be used in applying for certificates and permits may be obtained. No definite answers to such inquiries can be given until the personnel necessary to proper consideration of the questions involved is selected. Then, the rules and regulations governing the application for certificates, the filing of tariffs and other provisions of the Act, will be written.

The Bureau appreciates the fact that these matters must be given studied consideration so that the proper foundation may be laid and that no undue burden may be imposed upon those subject to the law. At best, it will be several weeks after the Bureau has been set up, before the preliminary work can be accomplished.

All told, it is estimated that the work of the Bureau will necessitate the employment of about 600 men and that the first year's appropriation for the job will be in the neighborhood of $2,500,000.

THE apparent purpose in establishing district offices is to decentralize the activity in connection with administration, and to relieve the operators of unnecessary expense. On the other hand, full control of the administration will center in the Commission. All schedules of rates and tariffs will be filed in Washington. A limited amount of jurisdiction will be delegated to the State boards, notably in the matter of conducting hearings on rates and applications. The Commission, of course, is authorized to delegate to the State boards such jurisdiction as it deems necessary to carry out the Act effectively.

The law provides that the Act shall take effect Oct. 1, but the Commission may extend the date of effectiveness for any provision to April 1, 1936. Every effort is being made to have the Act in good working order by the former date, although it is realized at the Bureau that some provisions will have to be delayed. One of these is the matter of accounting, keeping of uniform records and furnishing reports. In this respect, regulation of truck operators differs vastly from that of rail carriers. The so-called Huddleston bill, which was offered to the House Interstate and Foreign Commerce Committee in lieu of the Senate bill, finally enacted, exempted small truck operators—those having fewer than five trucks—from the requirements of this provision. The Bureau probably will not go that far, but it may be expected to establish reasonable rules governing accounting, so that "the little fellow" will not be unduly burdened. In the promulgation of such rules, the Commission will take advantage of the section of the Act which states that it "may from time to time establish such just and reasonable classifications of brokers or of groups of carriers included in the term 'common carrier by motor vehicle,' or 'contract carrier by motor vehicle,' as the special nature of the services performed by such carriers or brokers shall require; and such just and reasonable rules, regulations and requirements, consistent with the provisions of this part, to be observed by the carriers or brokers so classified or grouped, as the Commission deems necessary or desireable in the public interest."

SENATOR BURTON K. WHEELER, who piloted the bill through the Senate, in a nation-wide radio address recently asked the Commission to begin immediately a study, as authorized under the Act, of the hours and qualifications of motor carrier drivers, standards of equipment and other safety provisions.

"The Act contemplates," Senator Wheeler said, "a study of the hours and qualifications of truck and bus drivers and of the equipment used on the highways—all in the interest of promoting safety."

The Commission, in so far as safety is concerned, is given authority to prescribe reasonable requirements governing maximum hours of service and standards of equipment for private operators, as well as for-hire, and for other operators exempted from most of the provisions of the Act. It is understood that the Bureau will lose no time in getting this important work under way. No doubt, many members of the House who voted for the bill did so with the distinct feeling that the operation of the Act would tend to reduce the number of road accidents.

Meanwhile, Bureau Chief Rogers is working night and day to set up the machinery necessary to start the Act in motion. The section heads, he hopes, will be selected soon and be prepared to start on their big job early in September. They, too, will be required to burn much midnight oil to have the rules and regulations ready by Oct. 1.

New Truck Registrations by Makes by Months

	Autocar	Brockway	Chevrolet	Diamond T	Dodge	Federal	Ford	G. M. C.	International	Mack	Reo	Sterling	Stewart	Studebaker	White-Indiana	Miscellaneous	Total
January 1935	71	86	9,867	550	5,141	152	13,260	858	3,513	114	380	10	42	127	308	280	34,759
January 1934	79	91	8,917	406	2,581	120	6,650	555	2,284	161	289	9	61	98	284	318	22,903
February 1935	41	54	11,701	499	3,271	113	14,330	570	3,174	63	292	10	34	107	217	321	34,797
February 1934	58	81	10,718	420	2,723	121	6,459	453	2,150	144	339	14	60	109	357	270	24,476
March 1935	56	67	13,744	534	4,284	132	16,805	850	3,673	100	389	14	60	135	258	410	41,511
March 1934	64	117	15,112	501	4,154	170	8,632	717	2,841	145	461	10	67	126	452	315	33,884
April 1935	79	109	15,024	568	5,708	177	17,943	870	4,554	159	449	31	62	189	309	554	46,785
April 1934	88	104	15,050	534	4,367	178	13,167	839	2,729	206	527	4	90	123	558	318	38,882
May 1935	78	97	16,284	570	5,381	193	17,591	883	4,807	189	616	5	60	229	294	691	47,968
May 1934	146	117	14,148	508	4,441	186	14,390	1,031	2,849	212	578	10	103	193	544	375	39,831
June 1935	73	113	17,576	572	4,911	178	17,385	901	4,710	103	439	16	69	218	258	721	48,243
June 1934	95	108	12,981	481	3,729	196	12,205	884	2,435	154	504	9	67	133	447	350	34,778
Six Months 1935	398	526	84,196	3,293	28,696	945	97,314	4,932	24,431	728	2,565	86	327	1,005	1,644	2,977	254,063
Six Months 1934	530	618	76,916	2,850	21,995	971	61,503	4,479	15,288	1,022	2,698	56	448	782	2,642	1,946	194,744
% change 6 Mos.	−25	−25	+10	+15	+31	−3	+58	+10	+60	−29	−5	+54	−27	+28	−38	+52	+31

BY H. R. BARNETT, Special Investigator, Commercial Car Journal

Who's to Blame for Evil Regulation?

The Evidence Points to Businessmen Who Could Use Their Influence in Favor of Unprejudiced Administration of Regulatory Laws But Don't

IN previous issues of COMMERCIAL CAR JOURNAL I have set out in some detail the inadequate, inefficient, and monopolistic transportation services upon which Western Pennsylvania must rely. These conditions, so obviously inimical to the commerce, industry and agriculture of some 23,000 sq. miles of this State, have existed for some years, showing a tendency to become worse rather than better. Curiosity as to causes are natural.

Charles Sevin, general traffic manager of the Pittsburgh Plate Glass Co., holds the rather unique view that the railways of this area are reasonably good; that the trouble arises from the insistence of buyers on overnight deliveries. Buyers no longer bother to estimate future needs. The depression has created a buyers' market in which quick delivery has been ridiculously overstressed. He feels that good times and busy factories will remedy the situation automatically.

This viewpoint takes no heed of the flexibility of truck transportation; of personalized, door-to-door service, of simple rate structures, freedom from redtape, economy, etc.

MR. SEVIN confesses that the for-hire trucker and the company's own fleets of trucks have proved indispensable in delivering finished goods in a manner that will ensure customer satisfaction.

With all this internal evidence of the value of the truck, and especially the for-hire truck, Mr. Sevin leaves no doubt in one's mind that his company would like to see legislative handicaps invented for the trucker, and hopes with the return of good times that the rails will be placed in an impregnable position, with the trucking industry serving merely as a tributary to the senior system of transportation.

Such views are rather common among business men in this area, although most of them, as I have said, do not permit their views to interfere noticeably with their reliance on trucking services, wherever available.

WILLIAM STOUT, president of the American Hardware and Supply Co., Terminal Building, Pittsburgh, grew pale with anger at the word truck. He thumped the desk and declared that the trucks were a menace to the country and were ruining the railroads. The trucks were subsidized and had unrestricted used of roadbeds they had not paid for. They impeded Mr. Stout's pleasure touring for 50 miles at a stretch. They ruined railroad investors —especially widows and orphans. It seems to be accepted by many that widows and orphans own most of these unfortunate rail carrier stocks!

I reminded Mr. Stout that trains sometimes delayed his car at level crossings, and that in 1932 all the railroads of the State paid scarcely $12,000,000 in taxation; that they were in receipt of huge Federal handouts, and that much of the road bed they traveled on was given them long ago by a generous state. Furthermore, I told Mr. Stout that I had met several business men in small towns anxious to do business with him, but who were prevented by poor transportation on the rails and the lack of trucks, so that Cleveland was taking the business from him.

But Mr. Stout did not care if he did lose his business. What did it amount to? He indicated that it gave him considerable pleasure to see the closing of a big warehouse in the Terminal Building which the Atlantic and Pacific Tea Company had operated as loading centre for their truckers. The trucking employees had been involved in a bitter strike, and the railroad had

(TURN TO PAGE 42, PLEASE)

AFTER HOURS

Editorial Comments

On the Battles That Must Be Waged Now That Federal Regulation Has Been Made a Law

By GEORGE T. HOOK
Editor, Commercial Car Journal

USING a pen that was sent over to the White House by the American Trucking Associations, Inc., President Roosevelt last month signed the Motor Carrier Bill—a warrant that may mean a better life or a suffocating death to interstate common and contract carriers.

Regulation is now the law, and the fight to make it law is ended. But administration of the law is now in the hands of human beings who may be "unjust or unreasonable, or unjustly discriminatory, or unduly preferential, or unduly prejudicial." That legal verbiage is taken right out of the Motor Carrier Bill. There it applies to rates, but it is equally applicable to human beings. So the real fight, the bigger fight, the fight to insure fair administration of the law is still to be fought. Upon its outcome will depend whether interstate highway operations are fostered and expanded to their full possibilities, or hampered and restricted to the benefit of large motor carrier monopolies and competing railroads.

NO one need doubt that the railroads will exert every effort to prevent expansion and to promote curbing of motor carrier facilities. They will seek to divert traffic from the highways to the rails. If diversion fails, they will try assimilation. But all the time they will be opposing applications for certificates and permits and making life a merry legal hell for men with faith in motor transport and an honest desire to serve the public faithfully. That will be just another part of the fight.

NO one need doubt that right out of the ranks of motor carriers will emerge men with monopolistic ideas which, for greed and viciousness, will match the worst ideas held by the old-time robber railroad barons. Fantastic mergers and consolidations will be promoted. If they are approved, their objectives will be to exterminate their weaker competitors and join bloody hands with the railroads in opposing all new applications for certificates in their territories in order to preserve their monopolies. That, too, is another part of the fight.

IT is quite conceivable that the fight will involve a variety of combatants. Operators will battle one another, shippers and the public will battle the operators, and the railroads will battle everybody. The Interstate Commerce Commission and the State Boards won't be mere onlookers. They will be active participants who, by virtue of their Congress-given authority, will decide the issues. In their hands the Motor Carrier Bill can become a beast with teeth and claws that can maim and even devour. The I. C. C., with the rules and regulations which it is empowered to formulate on its own initiative, can start interstate highway transportation on the road to ruin.

Those operators who actively favored the Motor Carrier Bill need have no illusions that this regulatory measure was adopted to confer unusual benefits on them. It is not the intent of regulation to pamper or pet. Regulation has always been rough on the regulated.

UNFORTUNATELY, the fight cannot be an organized effort in which all groups present a united front against unfair administration of the law. For that reason the evils of regulation may, slowly but surely, creep in. Interstate operators will fight for the preservation and promotion of their own enterprises, and—let us be realistic—will selfishly oppose the efforts of others to enter the field. In that fight they will be alone. Only the railroads (if they don't happen to be sponsoring the application for a certificate) will be their friends—a friendship which, right now, is being advocated on the premise that "sooner or later we must sleep together in the same bed."

Arrayed against them in this fight will be the shippers, the public and the private users of the highways. These groups, in their own interest, dare not sanction a movement which would limit the field of competition and insure a virtual monopoly to those operators now in business. Private users of the highways must actively support the principle of unrestricted and free use of the highways. Because they must continue to insist upon it for themselves, they cannot stand aside and see it denied to others. They must oppose the doctrine of exclusiveness which interstate carriers will preach and practice.

THIS clash of interests within the truck industry would deserve only passing mention if the opposing operating groups were content to recognize it as inevitable, let it go at that, and continue to cooperate on other matters where their interests were obviously identical, and where a united front for vote-influencing purposes was both desirable and necessary. But it deserves emphasis because it is to be feared that the hotheads among the interstate carriers will prevail and advance the display of opposition as a reason for forming a separate national organization of all for-hire carriers subject to the regulatory act.

This cleavage is to be deplored because it would jeopardize the national organization known as the American Truck Associations, Inc. The extent of the jeopardy will be realized when it is known that the A.T.A. is dependent almost entirely upon interstate carriers for financial support. Pitiable as it may seem, it is nevertheless true that the State associations comprising the membership of the A.T.A. make an insignificant contribution to its support. Up to the present the "financial angels" have been satisfied to overlook this lop-sided and altogether unhealthy situation, because—it is to be supposed—they felt the need of so highly a representative body as the A.T.A. in their efforts to have Federal regulation adopted. With the disappearance of this usefulness there may come a change in outlook.

HOWEVER, there are many interstate operators who are fully aware of the consequences of such cleavage, and it is to be hoped that their counsel will prevail when the A.T.A. holds its second annual convention in Chicago, Oct. 14 and 15. The real fight will begin there, and its outcome will determine the way other interests draw up their fighting lines.

DRIVERS' REPORTS

(Continued from Page 19)

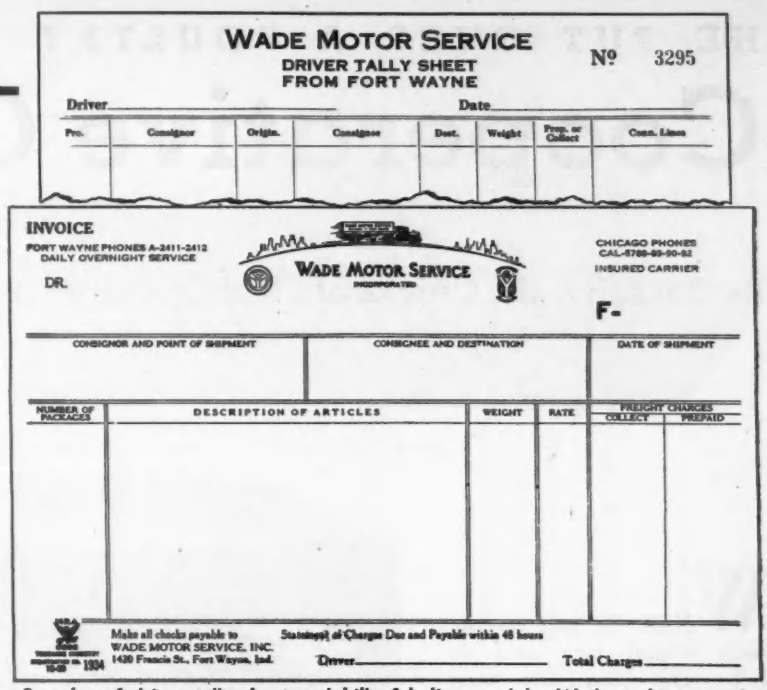
By the time this terminal was acquired his fleet had grown to 30 trucks, and people in Fort Wayne were so impressed by the fact that in less than five years he had become one of the biggest truckers in Northern Indiana that the Fort Wayne *Journal-Gazette* printed what may be called a special Wade issue in commemoration of his meteoric rise in the trucking world. In one of the articles that appeared in this issue is the following significant paragraph on the superior kind of service provided by Mr. Wade:

"A majority of the firms located in the territory served by Wade Motor Service, Inc., who do a large volume of shipping make use of the Wade transportation facilities. They have come to recognize this company as providing the most rapid, the most dependable, and the most satisfactory means of conveyance for their merchandise. Manufacturers, wholesalers, retailers, alike are represented regularly in the Wade deliveries. Prompt, safe transportation from the door of the seller to the door of the purchaser has become an established convenience so closely interwoven with the daily business activities of many companies that if it were interrupted even for 24 hours their business would be seriously hampered."

THERE is little doubt but that Fleetman Wade warranted this commemoration. He had built up a large and valuable service in a comparatively short time. He knew what his customers wanted. So he gave them safety. He gave them service. He climbed the heights on this smart operation.

He was determined at the very start of his trucking career to provide his customers the best possible in transportation service, and he quickly learned after he became a fleet operator that safe driving had to be an important adjunct to that service; so now his business motto is "Service with Safety." Such service is based, first, on a standardized fleet, every truck of which has proved itself to him as a safe driving unit.

Next in this safe driving program is the Wade corps of drivers, who are carefully selected by Mr. Wade himself. And the fact that he was a driver so long himself and knows practically every motor truck driver in Fort Wayne and how he works and whether he is a careful, dependable operator or not has stood him exceedingly well in the selection of his men. He is in close contact with the men all the time and is continually insisting on close adherence to all the rules he has laid down to live up to that motto, "Service with Safety." To stay with him, they must deliver the goods in every sense of the term, and that they are doing so is best evidenced by the continued and ever-increasing success of the company. That Mr. Wade chooses carefully is proven also by the fact that he still has the first seven drivers he hired; these are the men who have gone through the mill with him from almost the beginning and helped him so much.



WADE MOTOR SERVICE
DRIVER TALLY SHEET
FROM FORT WAYNE
No 3295

Driver _____ Date _____

Pro.	Consignor	Origin.	Consignee	Dest.	Weight	Prepd. or Collect	Conn. Lines

INVOICE
FORT WAYNE PHONES A-2411-2412
DAILY OVERNIGHT SERVICE
DR.

WADE MOTOR SERVICE
INCORPORATED

CHICAGO PHONES
CAL-8700-01-02
INSURED CARRIER

F-

CONSIGNOR AND POINT OF SHIPMENT	CONSIGNEE AND DESTINATION	DATE OF SHIPMENT

NUMBER OF PACKAGES	DESCRIPTION OF ARTICLES	WEIGHT	RATE	FREIGHT CHARGES COLLECT	FREIGHT CHARGES PREPAID

Make all checks payable to WADE MOTOR SERVICE, INC. 1420 Francis St., Fort Wayne, Ind.

Statement of Charges Due and Payable within 48 hours

Driver _____ Total Charges _____

Samples of driver tally sheet and bill of lading used by Wade in his operation

To assure his customers service as well as safety, every truck is lubricated and carefully checked by trained mechanics after each round trip to Chicago. This check includes an inspection of the engine, brakes, lights, tires, batteries, etc. Two mechanics and a helper are employed in the shop at Fort Wayne, and this shop is completely equipped to do all maintenance work, including complete overhauling. A complete supply of replacement parts is always kept on hand in the shop, including extra cylinder blocks and pistons and cylinder heads with valves ground in for quick change, together with other parts to meet any possible contingency. Every truck on long-distance hauls is also provided with a complete set of tools, a hydraulic jack, flags and flares, and extra light bulbs. (Mr. Wade said he absolutely would not tolerate any "one-eyed" drivers in his fleet.) At the end of each round trip each driver must also fill in a special "Driver's Report Sheet," on which he reports in considerable detail everything that requires mechanical attention.

Another report is the tally sheet. This contains information on each shipment in the truckload and is handed to the driver at the beginning of each run. At the bottom of this sheet is typed in capital letters the following pertinent instructions:

STOP AT ALL RAILROAD CROSSINGS. ABSOLUTELY NO RIDERS

BE POLITE TO ALL POLICE OFFICERS

Another form on which information on shipments is recorded is the uniform straight bill of lading, made out in triplicate, the first being the original as shown, the second the shipping order, and third the memorandum copy.

Today the Wade truck fleet consists of 35 units. Twenty-two of these are used in the transport of freight to and from Chicago and are chiefly of 2½-ton and 3-ton size. Seven of them are tractor-trucks and pull trailers 20 ft. long. In addition to the units in long-distance service, there are eight 1½-ton trucks in Chicago and three 1½-ton trucks in Fort Wayne used for pick-up and delivery service. Seven to 10 trucks travel each way between Fort Wayne and Chicago every night and each unit makes the 158 mile trip between the two terminals in six hours.

This standardized fleet, skilled drivers and Fleetman Wade's determination to give service and safety and maintain service and safety with strict driving rules and maintenance schedules are the factors in his successful rise from a teamster to operator.

HE PUT OVER A POULTRY AND EGG FARMERS'

Cooperative Operation

By Counting the Chicks of Fleet Operation Before They Hatched Headaches

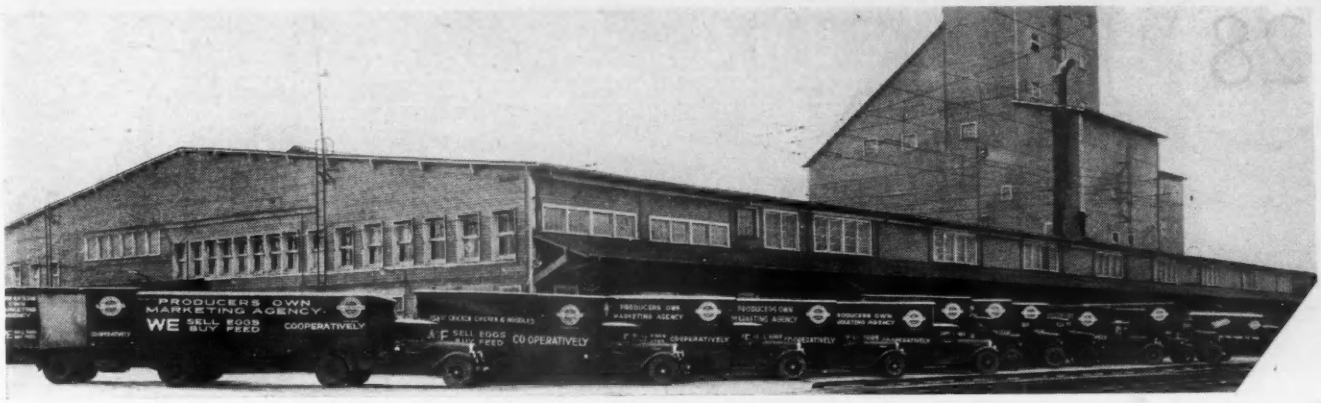
WHAT one man may do badly several men may do well. This fact has been demonstrated by the successful Washington Cooperative Egg & Poultry Association, with headquarters in Seattle, said to be one of the finest examples of what a group of farmers can do in marketing their produce.

But this principle holds good all along the line, from the New York sales agency of this group of farmers to the job of trucking the produce from the farm to the shipping station. There is no doubt but what the 120 trucks owned cooperatively by the 15,000 farmer members of the association do an excellent job of transporting, quickly and cheaply. And it is probably not an over-statement to say that T. B. Rodda, superintendent of the truck department of this association of farmers, knows more about the operation of each of these 120 units than does the farmer who operates one farm truck.

"Learning the facts of fleet operation is the biggest job of the fleet superintendent," says Operator Rodda, for with hundreds of thousands of dollars involved in the transportation job it is of paramount importance to find the little leaks that dribble into big annual losses.

FOR example, Mr. Rodda is not content to learn that a certain motor needs repair; he wants to know what part of the motor needs attention and why, whether the connecting rods, bearings, valves or stems,

Operator Rodda (right) inspects a repair job as the shop man reports what work was necessary. Top—A cooperative egg and poultry farm operated by the association



Terminal headquarters in Seattle and a line-up of "Cooperative" trucks

"LEARNING the facts of operation is the biggest job of the fleet superintendent," says Operator T. B. Rodda, who tells here how he proceeded to put over a farmers' cooperatively owned truck fleet. Standardization of equipment, closely supervised repair service and inspection schedules, oil analysis, etc., are parts of his program. Here it is in detail.

By MANDUS E. BRIDSTON, Based on an Interview with **T. B. RODDA,**
Fleet Superintendent, Washington Cooperative Egg & Poultry Association

etc. Comparative reports on all motor repairs soon tell him if certain parts of a motor have inherent weaknesses, whether the right truck is on the right job, whether the load is too large, or the lubricant is of the right kind for the unit and the job.

FURTHERMORE, this operator's knowledge goes farther than the per truck or per mile cost. Costs are segregated and analyzed by type of service and by route. This phase would be less important to many fleet operators, but in this instance the fleet is operated cooperatively and the cost is shared by member farmers. First, the per mile cost is arrived at per truck; then the total mileage of each route, and this, divided by the daily volume of haulage, gives a basic per unit or per ton rate that comes very close to actual cost of operation. Thus the rate the farmers pay for their own transportation service varies from five cents to 12 cents per hundred, depending on the distance from the receiving station. Haulage between stations or from these local stations to the central shipping point is based on rail or motor freight rates.

Few fleets in the north western part of the country have more gruelling jobs to perform. Most of the hauling is done in outlying rural districts, without benefit of paved highways, where the 15,000 members of the association live. To these members the trucks haul poultry feed, and pick up eggs and poultry for the market. Last year the trucks moved 143,160 tons over 1,622,040 miles at a total cost of $302,666.64. Total sales of farmers' produce aggregated almost $20,000,000 annually, and from this, of course, is deducted administrative, selling and transportation cost. Farmers receive the average of weekly prices for eggs and poultry, minus operating costs.

This fleet standardizes on its trucks which makes for a flexible operation and low maintenance costs. The association has 26 branches or stations extending along the Pacific Coast from Canada to Oregon and East to Idaho. It operates nine feed mills where poultry feeds are processed and sold to farmers at cost. Two years ago it established a chicken cannery where "Lynden" products are produced for local and foreign trade. Most of the eggs are sold on the Atlantic seaboard.

THIS varied type of service calls for variation in transportation service, and in order to keep all cost records straight, transportation is segregated into three divisions—membership service, feed delivery and produce pickup; station operating service, including delivery of produce to local retail outlets; and inter-station hauling. Cost records are kept separately for each type of service so that cost allocation on actual expenditures can be made equitably. The earnings of inter-station haulage with rates based on rail or motor freight charges, last year amounted to $30,500, which profit is a pretty good indication of efficient fleet management. Such earnings revert back to the farmer at the end of each year in the form of dividends on common stock.

So much for a general picture of this farmers' organization which has been uniquely successful since 1917 when organized by 150 poultrymen with a paid in capital of $483 (which figure has grown to $3,287,836.12).

THE backbone of the fleet maintenance problem is repair service, and this operator facilitates his work by maintaining four repair shops strategically located throughout the territory. These are two-men shops that do all servicing and minor repairs. Major jobs are done at the Seattle headquarters. Greasing is done once a week regardless of mileage, for Fleetman Rodda figures that this is the best type of road insurance. Formerly, this operator had elaborate inspection sheets designating inspection by mileage. However, Rodda has found a simpler and more effective way to insure complete inspection of all parts at regular intervals. The truck is divided into sections, such as motor, ignition, chassis, body, etc., and the mechanics follow a regular routine in sequence. For example, the motor in-

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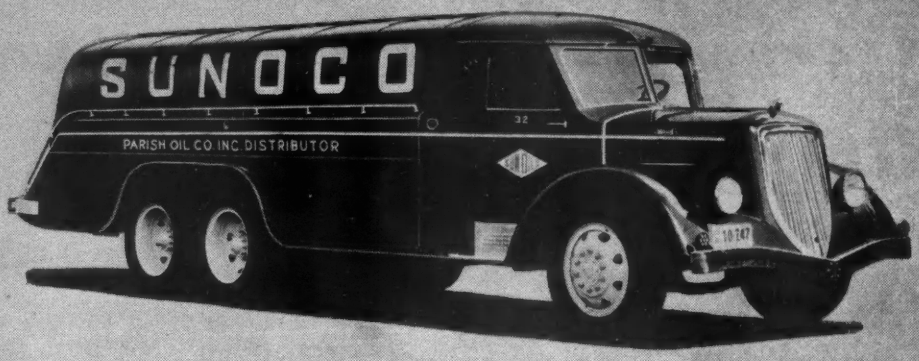
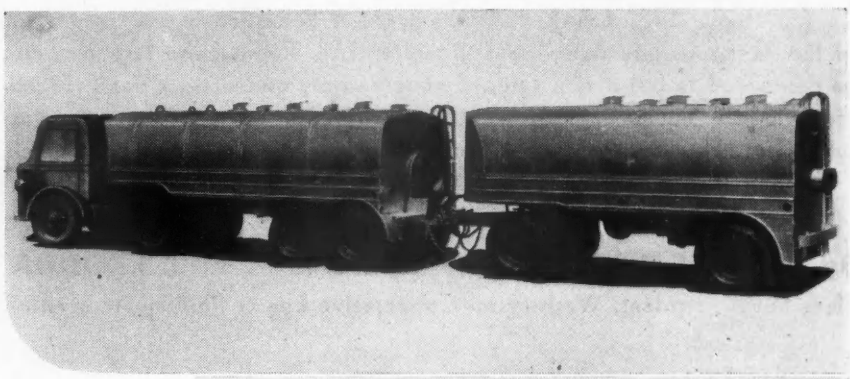
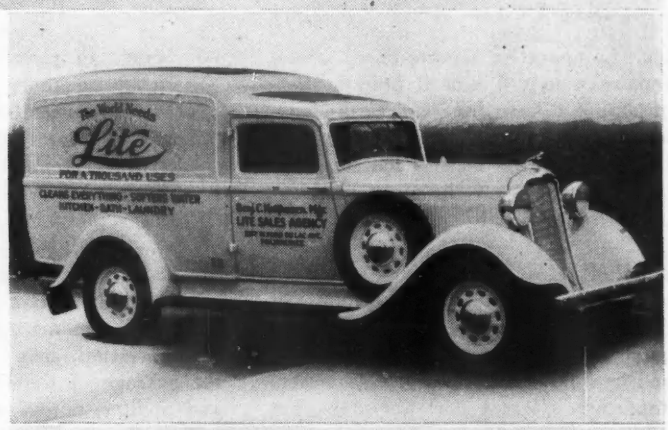


The ALBUM

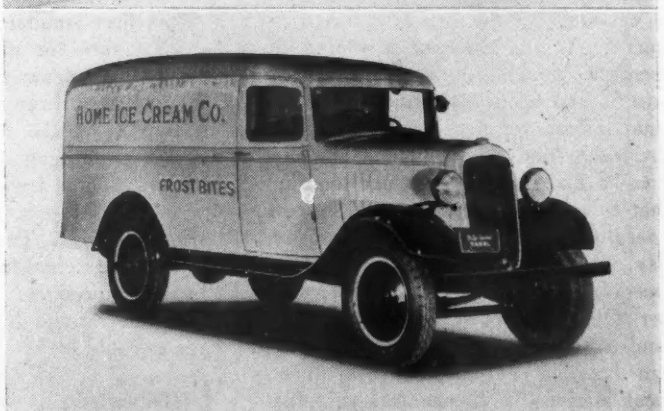
THIS smart truck has both utility and advertising value. Chassis is standard Mack BX six-wheeler with drive on four wheels. Cab, hood, fenders and grill work was executed by the Rex-Watson Corp., Canastota, N. Y., and the tank is a Heil of 3100-gal. capacity made of copper alloy steel. The unit is equipped with a Blackmere pump and hose reel used in conjunction with Brodie meter equipment. The Parish Oil Co., Inc., New York Sunoco distributor, operates the unit over a 100-mile route.



A WORLD champion! in capacity, height, width, length and weight is this combination semi-trailer and trailer fabricated by the Columbia Steel Tank Co. The tank is mounted behind a short wheelbase, cab-over-engine tractor and total length is just under 50 ft., making the unit eligible for operation in Michigan by the A. L. Kauffman Cartage Co., Detroit. Tanks are made of high tensile steel with three compartments in each. Fuel capacity of the two units is 9000 gal. Loaded, it weighs 90,000 lb. Westinghouse air brakes guarantee to stop it.



"'THE World Needs Lite' and I need you" (to paraphrase a classical song) might well be the theme song of the Lite Sales Agency, which operates this Dodge in the city that beer made famous. And if the appearance of this double-level panel delivery in Milwaukee is any indication of what "Lite" does for you, let's see more of the like.



THE Proctor-Keefe Body Co., Detroit, built a completely refrigerated unit to convert this Chevrolet 1½-ton standard panel body into an ice cream delivery truck for the Home Ice Cream Co. Sides, ends, ceiling and doors are insulated with Dry-Zero and lined with plywood. The floor is insulated with corkwood. A refrigerated door is built inside the panel body's regular rear doors. The truck hauls 240 gal. of ice cream in cans. Yum, Yum!

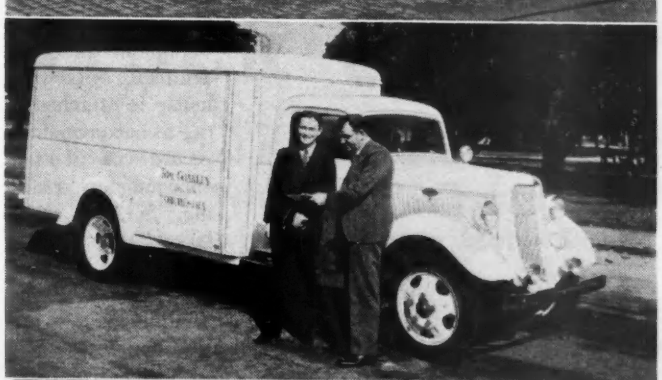
FORD lionized this job and Lyon Van and Storage Co., Los Angeles, Cal., does a lion's share of the hauling business on the West Coast with it. In fact, this Lyon roams over 1900 miles between San Diego and Seattle, through mountains, deserts and along the seacoast. Loads of 10,000 lb. have been trucked in the 1200-cu. ft. body. Cab has a built-in sleeping compartment.

Of Modern Truck Transportation Equipment

▲ REO'S camel-back speed wagon is hiding under this 15-ft. body, and the unit is operated by the Schiffmann Cartage Co., Milwaukee. Hood side panels are easily opened to give access to the engine and hood is well insulated and fitted to protect the driver from heat and fumes. The entire power plant can be removed quickly through the front for major repairs. Gross weight is 13,500 lb. The chassis is a "standard" which usually accommodates a 12-ft. truck body.

◀ A WHITE tractor hauls this Fruehauf-built portable ice house operated by the Roslindale Coal & Ice Co., Roslindale, Mass. The "semi" is shuttled over to Boston's railroad terminals for the purpose of icing rail cars, where it is left for the ice to be used at the RR's pleasure. Then White tractor picks up an empty Fruehauf and returns home. All in a day's work for Fruehauf and White.

◀ FIVE hundred cases on Trailmobile's chest, Yo, Ho, Ho, and a bottle of beer! And from the appearance of this unit, Trailmobile's "semi" carries that beer right well for W. T. Wagner's Sons Co., from Cincinnati to Columbus to Charleston to Indianapolis with Ford doing the pulling and puffing. Doors open in the rear. It's a classy job and easy to "beer" looking at.

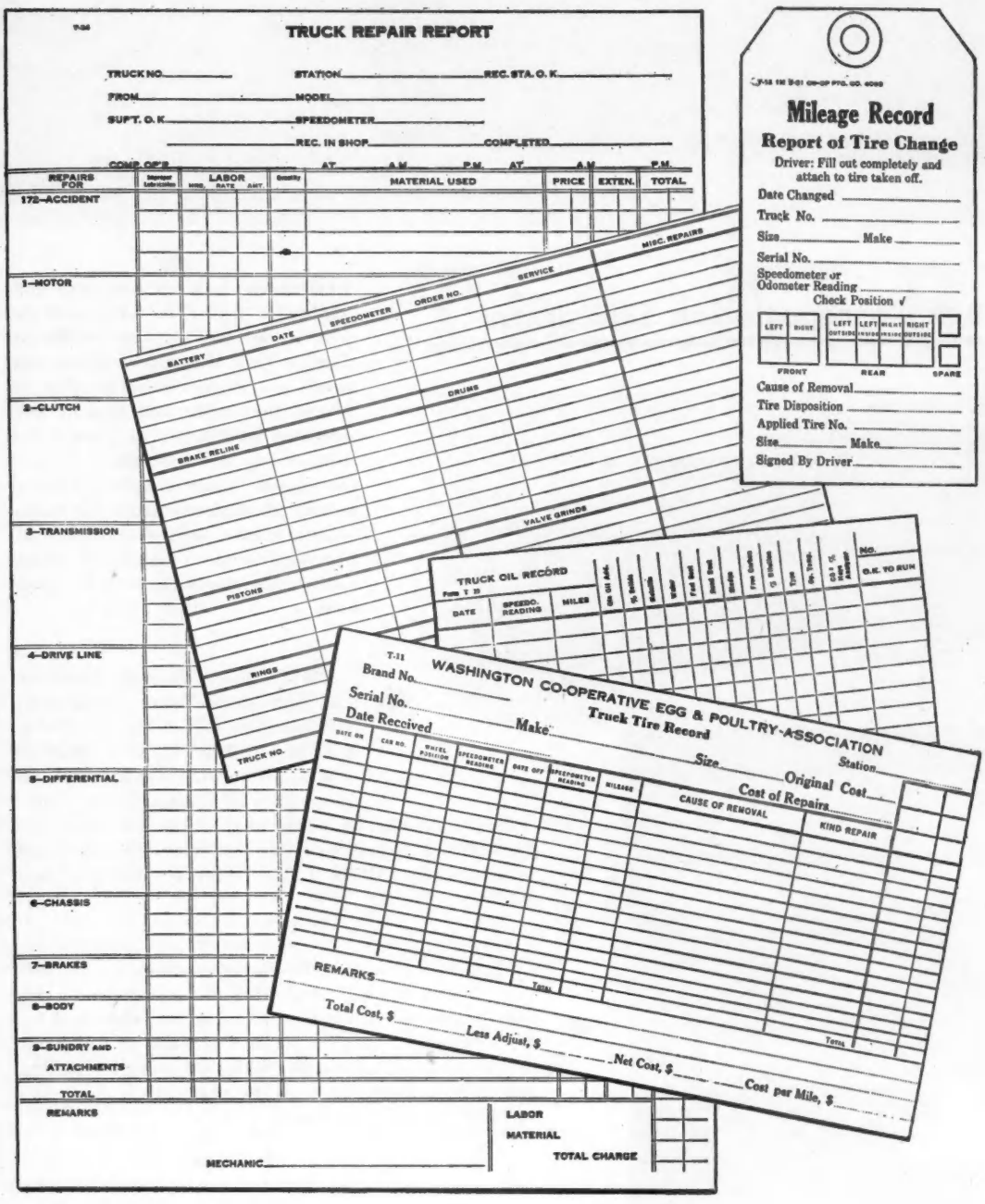


◀ THE American Rolling Mill Co. was as surprised as we were to learn of the use to which this truck is put. Tom Coakley and his orchestra use it to carry their instruments and baggage and serve as a rolling advertisement as the orchestra tours the country. American Rolling Mill was pleased because galvanized Armco paintgrip sheets were used for building the body. The pleasure was all Ford's for supplying the motive power, and is Coakley pleased! The appearance of the finish on the truck just makes us beam.

◀ MODERN from bumper to bumper is this camel-back Model UDF, 109-in. wheelbase Autocar equipped with special streamlined cab and Heil 1000-gal. tank. Goodyear tires are 9.75 x 20. This attractive truck is operated in Argo, Ill., by Corn Products Refining Co., New York. It is a fine looking unit with modern refinements for a refining company. That makes everything fine—or jake!

COOPERATIVE OPERATION

(Continued from page 27)



A close check on operation and maintenance is kept with these forms

spection of all trucks will be on schedule first, such as checking plus, ignition, valve clearance. When all motors have been inspected, the chassis may be next in order—brakes, spring shackles, wheel alignment, steering equipment. Then the transmission and kindred parts are scheduled. This system, says Rodda, prevents any vital part of inspection from being overlooked, for inspection is narrowed to one part of the truck on specific days, and this concentrated attention insures thoroughness. This routine is made possible by the fact that every truck returns to one or another of the station shops every day between one and two o'clock p. m. when mechanics go on the job. If more than minor adjustments are necessary reserve trucks are available at every station.

Motor oil analysis is another innovation with this fleet that has proven effective. Before the system of oil inspection was inaugurated arbitrary mileage figures were used for oil change, ranging from 500 to 1000 miles, depending on air cleaner or oil purifier attachments used and type of road condition, dusty or otherwise. Since oil analysis has been done, this mileage change of oil has in many cases been extended from 500 to 700 miles and from 1000 to 2500 miles on certain units. With some trucks requiring 10 to 12 quarts of oil, this increased mileage represents a big economy in operation. However, of more value is the fact that the oil analysis provides a real barometer of motor condition, not only as to combustion efficiency but quickly warns of excessive metallic wear, such as undue sluffing off of connecting rod bearings, etc.

THE routine of oil analysis consists of supplying the branch repair depots with half pint bottles for samples of oil at time of drainage. To this bottle is attached a tag to accommodate record of date, speedometer reading, miles since last change. This information is transferred to a master card at headquarters when the sample arrives for testing. Tests show per cent of solids, metallic constituents, water, fuelsoot, road dust, sludge, free carbon, per cent dilution, type, operating temperature and CO^2 per cent.

With these facts, it is easy to determine additional mileage left in the oil, if any. In such a case, foremen at the branch repair depots are notified of additional oil mileage available on

(Turn to Page 82, Please)

Map of 12 trade areas to be covered in test survey

U.S. Plans National Truck Use Survey

Bureau of Public Roads, Operating With WPA Funds, Will Supervise Fact-Finding Personal Interviews With Every Motor Truck Operator

HEREWITH are details of a highly important venture contemplated by the U. S. Bureau of Public Roads with the help of WPA funds. The survey described will result in the compilation of facts which, for the first time, will tell the complete story of highway transportation by motor trucks and trailers.

PLANS are being perfected by the United States Bureau of Public Roads for a survey which, technically, is known as a survey of commodity movements by truck. Actually it will be a thorough survey of all types of motor truck operations.

The first survey will be a test study and will be made in the 12 trade areas between Wilmington, Del., and Elizabeth City, N. C. In these areas 78,000 operators of all types, operating 104,000 trucks, will be personally interviewed. The survey will be part of a national study of all forms of transportation sponsored by the National Resources Committee with Works Progress Administration (WPA) funds. Secretary Ickes is chairman of the committee.

At the peak of the test survey, expected to begin Sept. 1, 900 white-collar relief workers will be employed.

Upon the results of this test survey will be based a decision whether or not to make a national survey in 1936. In this stupendous undertaking the following information will be uncovered:

1. Status of operator—whether individual, partnership, corporation or association.

2. Class of operation during 1935.

3. Extent of operations during 1935, which will include number of trucks and trailers operated exclusively within a city, including its suburban area; number operated outside of city, but exclusively within limits of the trade area; number operated beyond limits of trade area.

Commodities hauled during 1935 in order of importance on a tonnage basis.

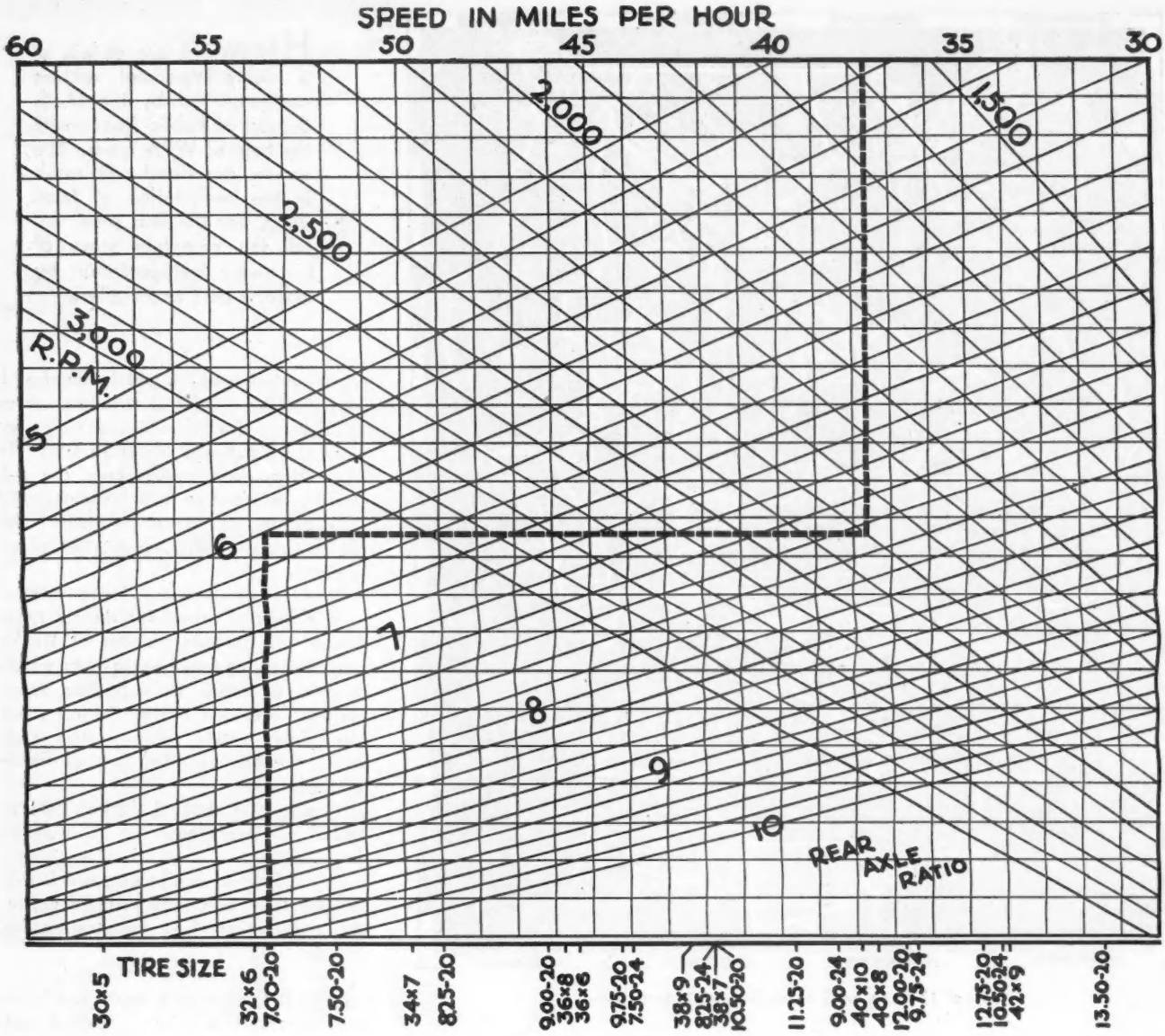
5. Analysis of equipment, which will include type, age, service, rated capacity, registration class, registration fee and special fees.

AFTER the survey is made, the inter-area operators will be segregated and made the subject of special periodic studies to determine types and tonnage of commodities hauled, their origin and destination, mileage and gross revenue.

This will be the first time that such a thorough study has been made. Previous surveys have been nothing more than samplings, with consequently inconclusive results.

The test survey involves a budget estimated at $100,000.

It would be the purpose of the Government to use the results of the survey to determine policies in regard to the coordination of all agencies of transportation. Guesswork will be eliminated and to that end, if no other, truck operators will find it advantageous to welcome the Bureau of Public Roads "recorders" when they call. These recorders will be chosen from the relief rolls for their aptitude, will be given thorough instructions and will operate under a group of specially trained supervisors. Every effort will be made to raise the efficiency of recorders to the point where the time and effort of operators will be conserved.



SPEED CHART

IT WILL HELP YOU FIGURE THE FOLLOWING

1. **R.P.M. for a Given Truck Speed**
2. **Gear Ratio for a Given Truck Speed**
3. **Tire Size for a Given Truck Speed**
4. **Truck Speed With Other Factors Known**

THE accompanying chart will serve to determine the vehicle speed for any given engine speed when the tire size and rear-axle reduction ratio are known. The scale at the bottom of the chart represents the effective rolling diameters of the various tire sizes under normal static load. From the point on the scale representing the tire size involved in the problem, one passes up vertically until intersecting the inclined line representing the rear-axle reduction ratio; then horizontally to the point of intersection with the line representing the engine speed, and then vertically to the scale at the top, where the speed of the vehicle in m.p.h. is indicated. The chart also determines engine speed for any given vehicle speed, tire size and rear-axle reduction ratio. To do this, one passes vertically from the point on the bottom scale representing the tire size, until intersecting the inclined line representing the rear-axle reduction ratio and then draws a horizontal line through this point of intersection. Next, a vertical line is dropped from the point on the scale at the top representing the vehicle speed, and the point of intersection of this vertical line with the horizontal line previously drawn represents the engine speed.

By P. M. HELDT, Engineering Editor, Automotive Industries, Chilton Co.

Tips on Driver Training From a Mental Engineer

Who Has Made a Study Among Truck Fleets of Drivers and Their Habits and the Managements' Responsibility Towards Them

By DR. RICHARD S. SCHULTZ

The Psychological Corp., N.Y.C.

"DRIVERS cause at least 90 per cent of the accidents and vehicles less than 10 per cent while vehicles get 90 per cent of the after-purchase attention and drivers get less than 10 per cent of after-selection attention," says Mental Engineer Schultz, who recommends giving drivers a break by breaking them of bad habits with positive training. Here are some tips on how to do it.

IN the January issue of COMMERCIAL CAR JOURNAL appeared an article under the title "Try Mental Engineering on Drivers" which outlined one method of selecting drivers who would be safe drivers and efficient drivers. In this article I will attempt to suggest methods of handling drivers after they are on your payroll and are one of your chief worries in fleet operation.

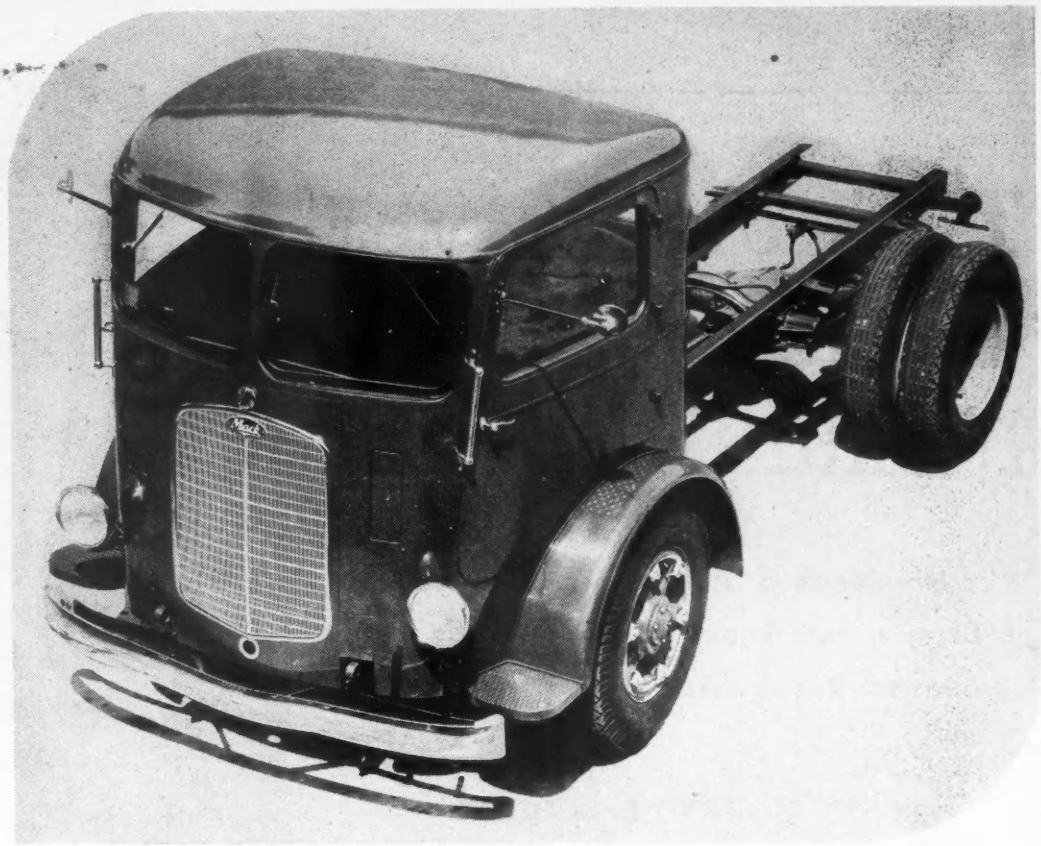
Let me make this clear to begin with. If you have made a reasonably good selection of drivers, their behavior from the time of selection on, is in your hands. If they slip as a group it is your fault as a fleet operator. If their record surpasses anything you have a reasonable right to expect you may pat yourself on the back but do not take time out to do it or the slipping process may start during the vacation no matter how brief.

What I am getting at is that drivers if they are to maintain or improve any standard except the bottom one must be trained constantly and the training process must have continuity. No fleet operator would entertain the thought of selecting his trucks with great care and then entirely neglecting the maintenance of these trucks. Still, with all good operators fearing the accident record, we find them selecting good drivers in some cases with exceptional care and then entirely disregarding further training of these drivers. May I call to your attention in this respect that drivers cause at least 90 per cent of the accidents and vehicles less than 10 per cent while the vehicles get 90 per cent of the after-purchase attention and the drivers get less than 10 per cent of the after-selection attention.

The qualities that make a man a good driver from the dollar-and-cents standpoint are so intermingled with the qualities that make him a good driver from a safety standpoint that he is almost always the same man. Almost invariably the efficient driver is relatively good at his job from all angles that do not involve special education. I do not at the moment refer to driver-salesmen. I refer to the fact that the man who delivers his parcels in the accepted manner without complaints from customers, the man who does not have trouble with company rules—is the same man who is a safe driver. Hence the training program should be one of general efficiency of which safety is an integral part.

Above all the training must be *posi-*

(TURN TO PAGE 53, PLEASE)



Mack model CH traffic type chassis showing new design of the all-metal cab

Mack Redesigns Traffic Models

Features All-Steel Deluxe Cab, Roll-Out Engine and Shorter Wheelbase for Given Platform Length

The complete powerplant rolls out

MACK has completely redesigned its two Traffic Type models CH and CJ and the improved version includes such features as roll-out powerplants which permit withdrawal of the powerplant through the front, streamlined cabs with all-metal roof construction, and shorter wheelbases for given platform lengths.

The new cabs have a sloping front sheet and windshield, which together with a smooth radiator grille, give a streamline appearance. The roof, of all-metal construction, is built integral with the cab, a construction that parallels advanced automobile body design.

Special attention has been paid to ease of entrance and exit. Doors are unusually wide and are hinged at the rear. A wide step is located at the front of the fender at bumper height, and in addition there is a step tread atop the fender. Chromium-plated grab rails are close to the door handles. The windshield is divided vertically in two sections, arranged in a shallow V and slanted to prevent reflection. Each section is hinged at the top allowing each one to be opened or closed independently of the other.

Driver comfort has been one of the main considerations in the new cabs. The driver's seat is easily adjustable. Seats and back cushions have deep springs with rubberized as well as interlaced curled hair pads, and are covered with genuine leather. Back cushions are of the high-back inclined type. The front sheet is fitted with two large door-type hatch ventilators, located on either side of the radiator grille. Two screened ventilators are also located over the top of the windshield frames. Two fixed back windows in the cabs are located close to the sides to provide maximum rear vision.

A FEATURE of the deluxe cab appointments is an instrument board with clock-type instruments illuminated by

(TURN TO PAGE 50, PLEASE)

Sterling's spiffy-looking special cab-over-engine tank truck boasts stylish design. Insert—The cab tilts forward, permitting easy access to the engine

Sterling Camel-Back Tank Truck Has Class

Diesel Engine, Forward-Tilting Cab, 27-ft. Over-All Length and Safety Equipment Are Features

THE Sterling Motor Truck Co., Inc., Milwaukee, Wisc., has just completed a tractor for the transportation of petroleum products by tank truck. This truck has a short overall length, and, through the use of aluminum, is light in weight in percentage of capacity. It was designed for the greatest possible engine accessibility and has an exceedingly high factor of safety for a gasoline transportation unit.

Although the tank has a capacity of 3850 gal., the overall length of tractor and tank trailer is only 27 ft. This short length was made possible by mounting the cab over the engine. Use of a drop-frame trailer with a minimum of space between the tank and the trailer affords an exceptionally low mounting, resulting in a low center of gravity. The height from ground to top of the tank is approximately 8 ft. The overall width is 8 ft.

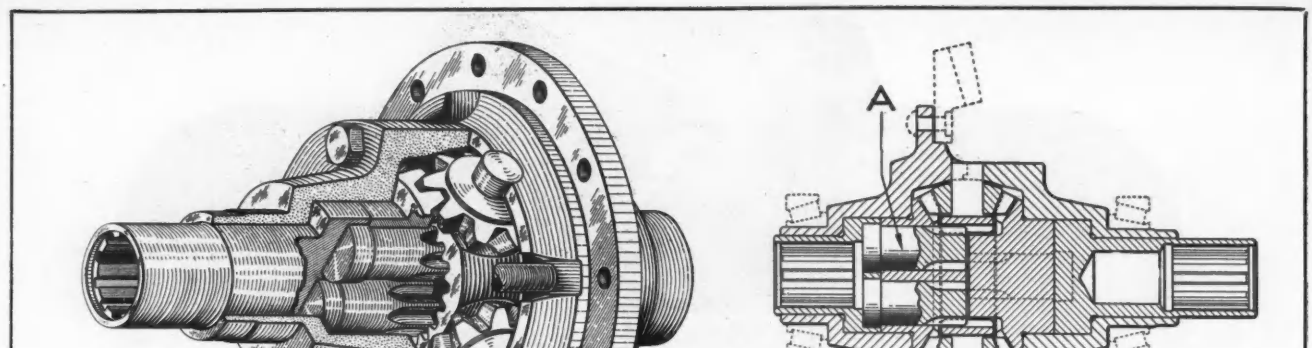
Another feature of this truck is its light weight. The cab, truck frame, tank, as well as many other parts, are made of heat treated aluminium alloy. The tractor with cab weighs 8070 lb., the tank, 2340 lb., and the trailer with fifth wheel, 3040 lb., making a total unloaded weight of 13,450 lb. The tank has a capacity of 23,870 lb., or a payload of about 1.77 to 1.

The tractor illustrated pulls a semi-trailer manufactured by the Fruehauf Trailer Co., Detroit, on which is mounted an all arc-welded aluminum tank made by Heil Co., Milwaukee.

The tractor is powered with a 100 hp. Waukesha Diesel engine. This engine has the power and operating characteristics necessary to haul loads safely and quickly over the highways and is especially effective on long grades.

Although the tractor has a top speed of 50 miles per hour, speeds will be regulated by means of a tachograph so that a predetermined speed can be set and maintained.

ANOTHER feature of this truck is the cab, which has a three-point mounting over the engine with hinges at the front, making it possible to tilt the cab forward in less than 30 seconds, and put it back in place in fifteen seconds. With the cab tilted forward, the engine and all the accessories are fully exposed, permitting mechanics to make any necessary adjustments in the least possible time. It was designed and developed by the Shell Petroleum Corp., in conjunction with the Sterling company.



From these two drawings it can be seen that there is only one element added to the parts of the conventional differential—which is the torque-distributing pin "A"

Torque-Distributor Checks Wheel Spin

Substitute for Conventional Differential Has Automatic Action; Ford Unit On Way

A SUBSTITUTE for the conventional differential gear, known as the torque-distributor, has been placed on the market by the Torque-Distributor Co., San Francisco, Cal. It is claimed that the torque-distributor overcomes the one defect of the conventional differential in that the sum total of the traction available under both wheels is available for pulling at all times, and that one wheel cannot spin. The drawing reproduced herewith is a section through the axis of the torque-distributor. It will be seen that there is only one element added to the parts of the conventional differential, this being a torque-distributing pin A. The power flow is from the ring gear to the case, thence to a differential spider with its four differential pinions, and from these to the two differential side gears. The latter, however, are not directly connected to the axle shafts, as in the conventional construction, but indirectly, through the torque-distributing pins, which are journaled in the side gears and are rotatable therein. They are also journaled in the axle driving members and are free to rotate therein. The torque-distributing pins have rotation imparted to them only when the differential side gears are moving faster and slower than the case respectively. This rotation results from the gear teeth at the ends of the pins meshing with the internal teeth in the spider.

The torque-distributor has no adjustments or controls, is claimed to be absolutely silent in operation, and to function equally under both forward and backward motion. The action is said to be instantaneously automatic, as all relative motion of parts is rotary motion. Durability is said to be insured because the torque-distributing loads are carried on surfaces rather than on lines.

This device is being manufactured for the Torque-Distributor Co., Hobart Building, San Francisco, by the Fairfield Mfg. Co., Lafayette, Ind. A replacement unit for the 1934-5 full-floating axle Ford truck is now in production.

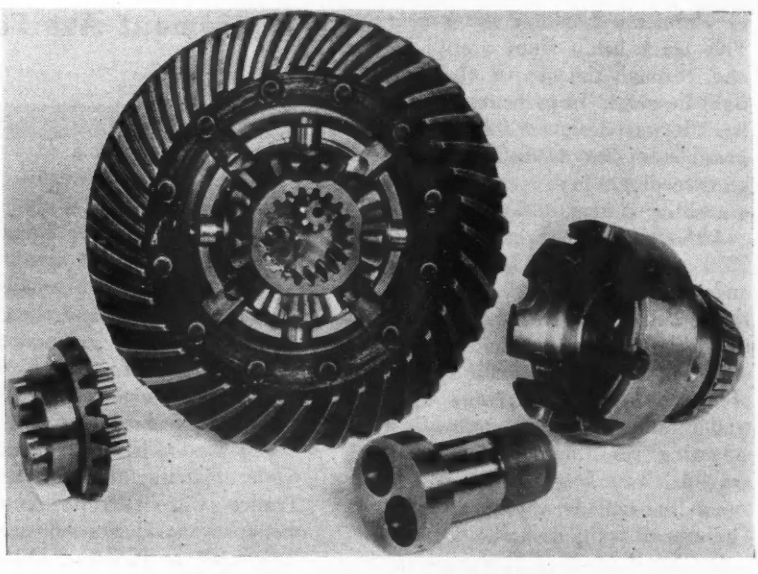
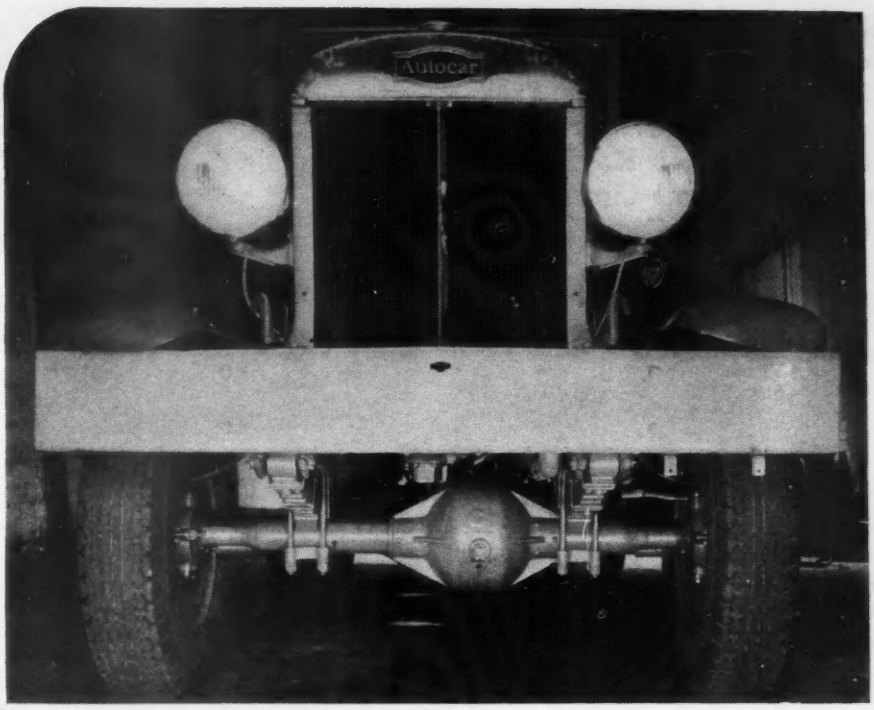


Photo shows parts of the torque-distributor

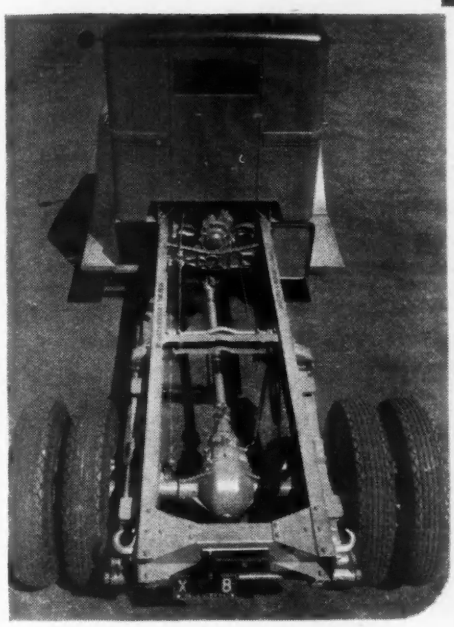


Autocar Makes 4-Wheel-Drive Debut

Models 4DF, 4N and 4S Are Respectively 3 Tons, 4 Tons and 6 Tons at $5000, $6500 and $7600; 159, 165 in. Wheelbase

THE Autocar Co., Ardmore, Pa., has entered the four-wheel-drive field with three models—the 4DF having a nominal tonnage rating of 3 tons, the 4N with a 4-ton rating, and the 4S of 6 tons' capacity. The chassis are priced at $5,000. $6,500 and $7,600.

All of the front axles are Timken-Wisconsin. The 4DF has the model F501-H-1 front axle, while the 4N has the model F-213-H, and the 4S has the model F-313-H. All are of the double-reduction type and are equipped with constant velocity wheel joints. Axle shaft diameters both front and rear are 1½ in. for the 4DF, 1¾ in. for the 4N. and 2 1/16 on the 4S.



The views are of Model 4DF 159-in. wheelbase four-wheel-drive chassis

Transfer cases and auxiliary transmissions are the Timken T-2 on the 4DF, and Timken T-7 on the other two models. They are located amidship in rubber mountings. Both have two forward speeds, the ratios on the T-2 being 2.44 to 1 and direct, while the T-7 ratios are 2.55 and direct.

All three models have larger powerplants than comparable models of the conventional line having the same nominal rating. All are powered by Autocar Blue Streak engines. The 4DF has a 4¼ x 4¾ in. engine with 404 cu. in. piston displacement. Actual horsepower is 94 at 2500 r.p.m.. and the AMA rated horsepower is 43.4. The torque produced by this engine is 271 lb.-ft.

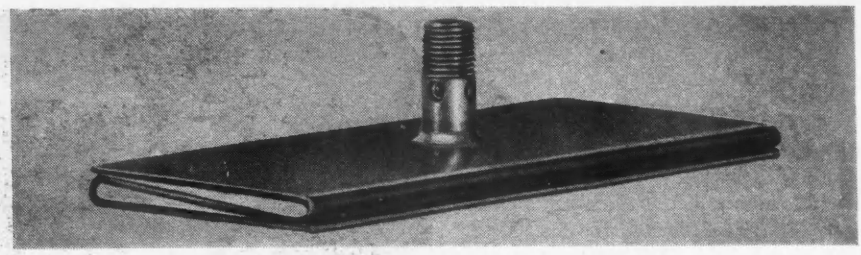
The engine in the 4N is a 4½ x 4¾ in. engine with 453 cu. in. of piston displacement and actual horsepower of 101 at 2500. The AMA rated horsepower is 48.6, and the torque is 309 lb.-ft. The 4S is powered by a 4½ x 5¼ in. engine with 501 cu. in. of piston displacement with an actual horsepower of 124 at 220 r.p.m. and an AMA rated horsepower of 48.6. The torque output is 375 lb.-ft.

ALL three models have hydraulic brakes. The larger two have front brakes 17¼ in. x 4 in. and 17¼ in. x 5 in. on the rear wheels giving a total brake lining area of 648 sq. in. The 4DF has 16 in. x 2¼ in. brakes in front and 17¼ in. x 4 in. brakes in the rear which gives it a brake lining area of 420 sq. in.

Four-speed transmissions are fitted to the three models. The 4DF and the 4N have a low speed ratio of 6.34 to 1. The high speed is direct. The 4S has a ratio of 6.29 in low and drives direct in high. The final drive ratios are 7.35 for the 4DF, 7.27 for the 4N, and 7.52 for the 4S. While only one ratio is listed, several are available for different uses.

Only one wheelbase is listed as standard for each model, but this can be altered for specific uses. The wheelbases are: 159 in. for the 4DF, and 165 in. for the 4N and 4S. Standard tires, duals rear, are 9.00/20 on the 4DF, 9.75/20 on the 4N, and 10.50/20 on the 4S.

Linderman Brake for Truck and Trailer is Operated by Either Fluid or Air Pressure, Eliminates Servo Action and Uses No Pistons or Mechanical Linkage; It Has Built-In Equalization



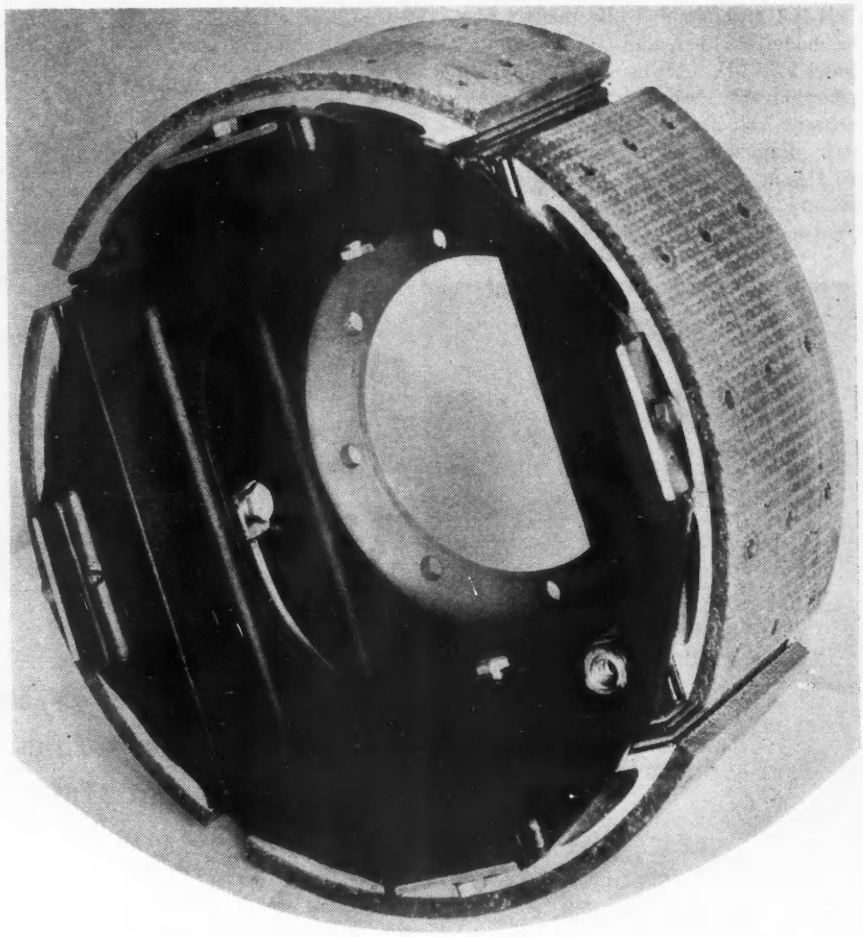
Diaphragm Operates 4-Shoe Brake

A NEW braking system operated by either hydraulic or air pressure is announced by Linderman Devices, Inc., Detroit. This new system provides direct actuation of brake shoes without the use of pistons or mechanical linkage. There is no servo action. In spite of the elimination of servo or self-energizing action, the new Linderman brake, which is available in any size or capacity for trucks, cars, buses and trailers has a high braking capacity for a given drum size together with a low line pressure, resulting in soft pedal action. Use is made of the maximum area available inside the drum for braking and the entire area of the lining on each shoe is effective, since the shoes are floated radially outward to the drum and are self-aligning, taking care automatically of any eccentricity or distortion. The elimination of servo or self-energizing action, which means the elimination of high localized pressures, permits the use of a high coefficient of friction lining, while safe-guarding against localized lining wear and drug scoring.

THE elimination of mechanical linkage at the wheels and the elimination of servo action provides the Linderman brake with built-in equalization not only to the wheels but directly to all brake shoes. Greater safety at high road speeds and with heavy loads are natural results of these characteristics.

The shoes are operated by a unit described as a multi-stage diaphragm. It has no moving parts and is leak-proof. As shown in the accompanying illustration, this unit is a folded diaphragm, multiplying the motion caused by expansion of the diaphragm under pressure in direct proportion to the number of folds. This provides maximum motion of the shoe for a minimum expansion of each stage of the diaphragm.

It is made of two steel sheets, folded over and back, with the edges welded together. Between each two "stages"—within each fold—is a tapered composition filler which insures that 100 per cent of the expansion of the diaphragm will be translated into motion of the shoe. Each shoe is actuated by its own diaphragm.



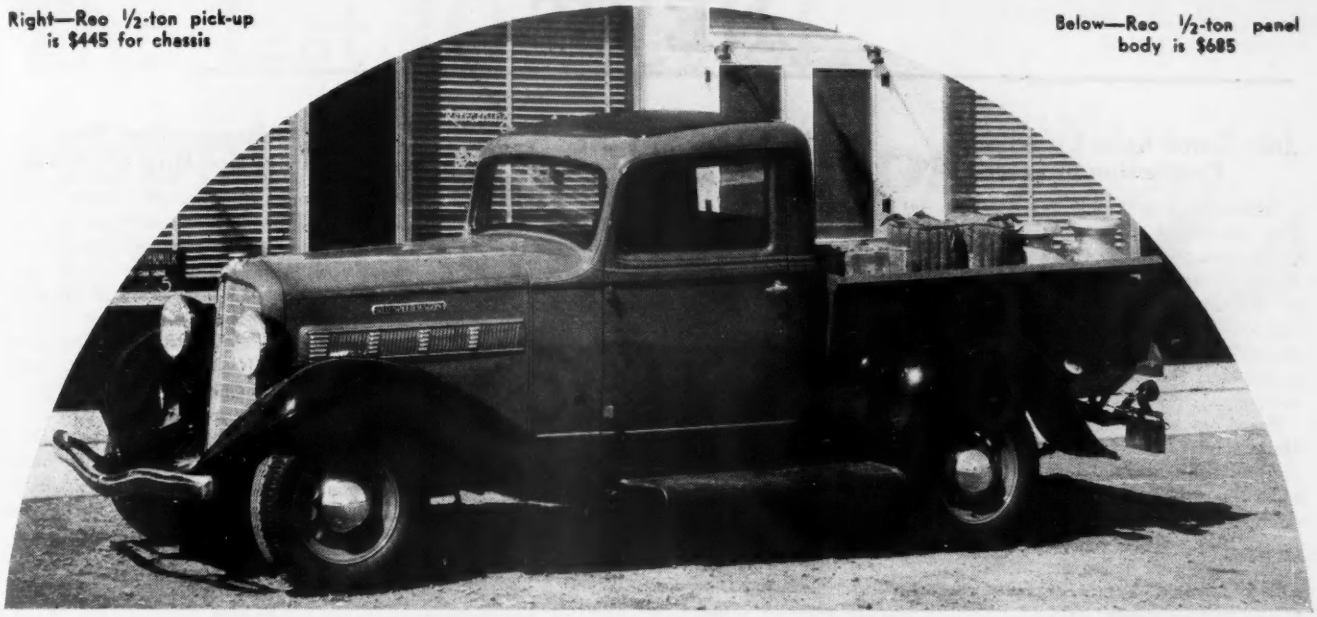
Top—The multi-stage diaphragm which operates each shoe gives complete equalization. Above—Diaphragms are located between each of four shoes and corresponding sides of platform

Shoes are located immediately adjacent to the diaphragm, but are not attached. They are simple stampings with reinforcing ribs which are guided by anchors welded onto the brake backing plate. The shoes can be adjusted for wear of the lining by placing shims between the shoe and the diaphragm.

In the four-shoe type of Linderman brake, a simple square platform is welded to the brake support plate. On each side of the platform is located one of the diaphragm units, locked to the platform with plumber's ground joint unions. These unions provide the attachment for the fluid manifolding which equalizes the pressure to wheels and shoes. The shoes themselves and the standard brake drum comprise the rest of the assembly. The anchors on the backing plate which guide the shoes also take the brake torque and form the seats for the retracting springs.

For installation on trucks, buses, and trailers in the field, no re-designing of axles, wheels or drums is necessary.

Right—Reo ½-ton pick-up is $445 for chassis



Below—Reo ½-ton panel body is $685

Reo Has New ½-Ton at $445

A NEW ½-ton commercial car with the chassis priced at $50 less than the previous ½-ton speed wagon has been placed on the market by the Reo Motor Car Co., Lansing, Mich. It is the model 6AP. The chassis price is $445 and the price of a complete vehicle with a panel body is $685.

It is powered by the Reo Silver Crown heavy duty engine. The engine is a 6-cylinder 3 3/16 in. bore by 4⅜ in. stroke, having 209.5 cu. in. of piston displacement. The AMA rated horsepower is 24.38 and the actual horsepower is 72 at 3200 r.p.m. The torque output is 145 lb. ft.

PISTONS are of Lo-Ex alloy, cam ground and with T slots. There are four main bearings of 2½ in. diameter. Lubrication is by full pressure and carburetion is by a down draft plain tube carburetor.

Model 6AP Has 72 H.P., Internal Hydraulic Brakes and 118-in. Standard Wheelbase; Complete Panel Job is $685

The clutch is the single plate type and a three-speed transmission is fitted. The low ratio is 2.81 to 1 and the second speed is 1.6 to 1. The drive shaft is a balanced tubular shaft supported by needle bearing universal joints. Standard wheelbase is 118 in. The rear axle is a semifloating axle built by Reo. The standard ratio for the final drive is 4.27 to 1 with 4.55 to 1 and 4.9 to 1 as options. The front axle is Reo built.

Internal hydraulic brakes are used as on all Reo models. For the 6 AP an 11 in. by 1¾ in. drum is used, giving a brake lining area of 170 sq. in. The steering gear is the cam and lever type and the tire equipment is 6.00/16 with singles in the rear. A 16 gal. tank carries the gasoline and the cooling system capacity is 15 qt. Front springts are 33¾ in. x 1¾ in. and rear springs are 55½ in. x 2 in. The wheels are of stamped steel.

Two bodies are available, a panel and a pick-up. Suburban sedan and station wagon models are part of line.

NEWS

July Truck Sales Up 38% Production Increased 45%

Domestic new truck registrations for July amounted to approximately 52,000 as compared with 37,490 a year ago and 48,243 during June of this year, according to estimates based on returns from 33 states. This represents an increase of about 38 per cent over July, 1934, and approximately 8 per cent over June of this year.

Based on estimates of the Automobile Manufacturers Association, truck production for July amounted to approximately 64,563 as compared with 44,546 for the same period last year and 68,180 during June, 1935. This represents a loss of about 6 per cent from last month, but is still a substantial gain of approximately 45 per cent over July, 1934.

ATA Suggests Cost Principle

Adoption of a simplified cost principle to guide members of the trucking industry in computing their rates was recommended by the National Rates and Tariffs Committee of American Trucking Associations, Inc., at a meeting held in Washington last month. The committee passed a resolution recommending that the industry develop truck rates on a "basis of reasonable truck operating costs, plus a reasonable profit and applied under a truck classification of commodities." The committee, headed by Maurice Tucker, is still open-minded on the question and solicits the views of operators on three methods: the one recommended above, which is (1) tariffs based on truck costs with a truck classification; (2) tariffs based on rail rates with a rail or truck classification, and (3) tariffs based on what the traffic will bear.

Studebaker Shifts Managers

Studebaker has made changes in assignment of some of its district truck managers. Here are their headquarters, the managers and the territories they will cover; South Bend, Ind.—H. O. DeBoer, Illnois, Iowa, Wisconsin; Louisville, Ky.—W. Vander Meulin, South Bend, Memphis and Atlanta; St. Paul, Minn.—E. J. Frederick, western territory in South Bend branch; Kansas City—J. E. Schairer, Kansas City; Cleveland—M. H. Sinnott, Cleveland; Buffalo, N. Y.—Harry Kelley, Cleveland and Philadelphia; New York—J. Swanson, New York, Cleveland and Philadelphia; Philadelphia—L. M. McWilliams, Philadelphia; Boston—Leo N. Bates, Boston; Portland—E. S. Toles, Portland; Los Angeles—E. G. McMannamy, Los Angeles; San Francisco—R. H. Spencer, zone manager of the truck division of the Pacific Coast.

Goodrich Ups Brunner

G. E. Brunner has been appointed manager, factory account sales, of the B. F. Goodrich Co.

SAE Proposes New Rating Formula

To Guide Legislatures in Adopting Uniform Rating Regulations

Due to present legislative trends toward motor truck performance requirements, the matter of adopting a uniform standard motor truck rating formula has been revived by the S.A.E.

In several states bills have been introduced, regulations prescribed and consideration given to the subject with the object of requiring certain minimum performance charactertistics such as ability to maintain certain rates of speed on grades of certain steepness. The National Conference on Street and Highway Safety is already on record as favoring a requirement of ability to make 20 miles per hour on 3 per cent grades in level country and 6 per cent in hilly districts.

Judging by past legislative performances, it was felt that unless a rational formula were available, legislatures might take hasty action and adopt regulations that might easily become burdensome and unreasonable both to truck producers and users.

The present formula is being used by certain manufacturers and fleet operators at the present time, although it has not had the outspoken endorsement of the leading organizations in the transportation field. Here is a good opportunity for those now using the formula as well as other interested people in the transportation field to consider the matter of truck rating officially and aid in the establishment of a uniform code. Concerted action along this line may forestall unwise or precipitate action on the part of the various state legislatures.

The following formula is submitted by the S.A.E. Motorcoach and Motor Truck Rating Committee as the result of its meeting at White Sulphur Springs, W. Va. June 18, 1935, only for review and comment and is not a definite report of the committee. *The basic formula follows:*

$$\text{Performance Factor} = \frac{3.34 \times \text{Piston Displ.} \times \text{R.P.M.}}{\text{Gross Veh. Wgt.}}$$

The permutations of which are:

$$\text{Miles per Hr.} = \frac{\text{Performance Factor}}{\text{Grade in \%} + 1.5}$$

$$\text{Grade in \%} = \frac{\text{Performance Factor}}{\text{M.P.H. at Gov. Speed}} - 1.5$$

$$\text{Gross Veh. Wgt.} = \frac{3.34 \times \text{Piston Displ.} \times \text{R.P.M.}}{\text{Performance Factor}}$$

$$\text{Piston Displ.} = \frac{\text{Performance Factor} \times \text{Gr. V. Wgt.}}{3.34 \times \text{R.P.M.}}$$

[Additional News Page 87]

Newark Transportation Meet Scheduled for End of October

Arrangements have been completed for a regional transportation meeting in Newark during the four days previous to the New York Automobile Show. It is being sponsored by the Motor Truck Association of New Jersey, the Metropolitan Section of the Society of Automotive Engineers, the New Jersey Highway Users Conference and the Newark Chamber of Commerce.

The entire week will be proclaimed Commercial Motor Vehicle Week through New Jersey by order of Governor Hoffman. Vocational truck groups will carry special signs on motor vehicles conveying to the public the daily contribution of the truck to public welfare.

A commercial vehicle exhibit, with space commitments already greater than for the successful affair held last year, will occupy the Newark market.

Babcock Heads GM Truck

Irving B. Babcock was elected president and general manager of the Yellow Truck and Coach Mfg. Co. at a meeting of the board of directors last month.

He succeeds Paul W. Seiler who has resigned effective Sept. 1, as president of Yellow and its subsidiaries, General Motors Truck Corp. and General Motors Truck Co. Mr. Seiler continues as a director.

Keller Is Chrysler President

K. T. Keller has been made president of the Chrysler Corp., succeeding Walter P. Chrysler. B. E. Hutchinson, vice-president and treasurer has been appointed chairman of the finance committee; Fred M. Zeder, vice-president in charge of engineering, is now vice-chairman of the board; H. A. Davies is treasurer. Although relinquishing the presidency, Mr. Chrysler continues as chairman of the board and directing head of the business.

IHC Moves Managers

F. J. Harmon, formerly manager of Harvester's International truck branch in Philadelphia, has been appointed New York branch manager, in charge of the sales and service of International motor trucks in the metropolitan area. P. V. Moulder, formerly New York branch manager, has been transferred to the home office in Chicago as assistant district manager of the Eastern district. K. W. Perkins is the new Philadelphia manager.

FWD Makes Appointments

Chester J. Roberts is assistant general manager and Robert C. Geffs is assistant sales manager of the Four Wheel Drive Auto Co., Clintonville, Wis. Other appointments are: S. F. Wick, San Francisco branch manager; A. E. Fredenberg, branch division manager; W. C. Merrill, oil field sales representative in Louisiana, the Gulf Coast and southern Texas.

The last 10 feet of stopping-distance costs $13,000,000 an inch!

Stop your trucks a second sooner!

IF ALL the cars and trucks involved in accidents last year had stopped *10 feet sooner,* more than a billion and a half dollars would have been saved.

Bendix B-K Controlled Vacuum Power Braking could have stopped most of them 10 feet sooner.

That's why state after state is passing laws making power braking virtually compulsory on various types of heavy vehicles. Nebraska, Illinois, Michigan, Arkansas, Florida, Virginia—the list grows longer almost every month.

Don't wait! It's good, sound common-sense to send your trucks out equipped with these time-proved life-and-money-savers. More than a million owners certify their reliability. You can install them quickly on practically any truck, new or old. The cost is very, very reasonable. Write for details, prices, sales and service station information.

BENDIX PRODUCTS CORPORATION
(Subsidiary of Bendix Aviation Corporation)
401 BENDIX DRIVE, SOUTH BEND, INDIANA

How fast you can STOP is more important than how fast you can STEP!

You go a long way in a second!

60 m. p. h.	5280 ft. in 60 seconds 88 ft. in 1 second
30 m. p. h.	2640 ft. in 60 seconds 44 ft. in 1 second
15 m. p. h.	1320 ft. in 60 seconds 22 ft. in 1 second
10 m. p. h.	880 ft. in 60 seconds 14⅔ ft. in 1 second
5 m. p. h.	440 ft. in 60 seconds 7⅓ ft. in 1 second
1 m. p. h.	88 ft. in 60 seconds 1.4 ft. in 1 second

BENDIX *Controlled Vacuum* POWER BRAKING

B-K VACUUM POWER BRAKING A BENDIX PRODUCT

Evil Regulation

(CONTINUED FROM PAGE 23)

quickly put into effect a new tariff for this class of traffic. Incidentally this tariff bears the words "issued to meet motor truck competition." Examination will reveal that it not only meets but eliminates the motor truck and that many of the rates are certainly non-compensatory, being fully 50 per cent below previous rates. When a highway carrier does that kind of thing it is uneconomic, wicked, cut-throat competition, and should be subject to regulation! This tariff, of course, has the blessing of the Interstate Commerce Commission. And three hundred men and more than one hundred trucks are idle as a consequence. I said something of this to Mr. Stout. The inkpots were still dancing when I left.

In Warren I called on Mr. Armstrong, manager of Picket Hardware Co., an efficient, prosperous-appearing retail concern. Mr. Armstrong considers trucks the cause of railroad deterioration, and said that he will personally support the rails to the bitter end, "even though they fall down completely on the job."

J. B. BARTON, publisher of the Mercer *Dispatch*, likewise felt that the United States depended for its prosperity on the rails (which is like putting the cart before the horse) and that the stability of investments was threatened if the advantages of highway transportation should not be offset enough by regulation to restore the railroads to a competitively advantageous position. Yet Mr. Barton stood for an hour and told me of the gradually diminishing services of the rails, of instances of inefficiency, stupidity, and disobedience to shipper's instructions by railway employees, of loss, inconvenience and delay they had caused him. This he voluntarily contrasted with his experience of interstate trucking organizations who had helped him times without number. During our conversation the enormity of the railroads' offences would apparently overpower him, and he would say, slowly, with emphasis, "Yes sir! The railroads have gone plumb to hell!"

Not one of these gentlemen, and they represent a fairly numerous group of business men, would do anything to assist the trucker of Western Pennsylvania to secure a fair deal from the Public Service Commission. It is much more probable that their support in any public action would be thrown to the railroads. It is *part* of the reason such conditions as prevail go unremedied year after year.

Many of the things I outlined in earlier articles came from men who are bitterly critical of the cavalier treatment the rail carriers accord them. They are only too anxious to see a change; to see established, sound trucking concerns, offering for-hire transportation to all parts of the state. They want *both* kinds of transportation made available to them, but these men depend in part upon the railroads for their bread and butter. The rails buy from them. They have free siding facilities. They rent a building from the railroad or lease one to it. Perhaps they have loans from a bank, and the bank is responsive to railroad pressure.

Information they would give me, and express a hearty wish that this publicity would bring about results favorable to the road hauler, but always they would preface their stories and their opinions with a request that their identities remain a secret, so that their connection with the railroad would not be imperilled. These men are *with* the trucking industry but fear to declare their allegiance. The small retailers in railroad towns are likewise intimidated by organized groups of railroad employees. In Altoona, Meadville, Erie, and such towns my visits were invariably viewed with suspicion. I might prove to be a railroad spy!

Here, then, are two groups of men, well aware of the hampering restrictions that burden their businesses, and yet quite unwilling to assist in remedying them. One group would unhesitatingly give public support to any legislative or other action that would take from the for-hire trucker the limited use of the highway he now has. The second group would hate to find themselves compelled to render open support to either rail or road, for fear that they would do injury to their principles, and hurt their purses.

WITH few exceptions, Chambers of Commerce and Boards of Trade have active railroad representatives, and I found that in matters of transportation such organizations reflect no views that the rails might oppose, and certainly do not represent fairly the attitude of large numbers of their mercantile and industrial members.

Manufacturer's Associations are open to the same charge, although it is but fair to say that individual traffic directors, secretaries, and other officials of these various organizations often emphasized that they were well informed as to the woeful effects of poor transportation upon the business life of their communities, and disassociated themselves from the policies of the boards of directors to whom they answered.

It is obvious, then, that the shipper and the consignee, the merchant and the manufacturer, are themselves largely responsible for the transportation ills that afflict Western Pennsylvania.

Hearings conducted by the Public Service Commission have become a facile weapon in the hands of the railroads. The independent trucker meets with the most strenuous railroad opposition in these hearings. The railroad affiliates and subsidiaries, and those willing "to go along" with the rail carriers, have no such difficulties to overcome.

Thus the decisions of the Public Service Commission to grant or refuse a certificate do not invite confidence. In reply to a shipper's inquiry for a certificated trucker between two points in the West of the State, Mr. Blanning, Chief of the Public Service Commission office wrote, "the Commissioners did not approve of the character of the operation." To another shipper, inquiring for a common carrier trucker between Philadelphia and Pittsburgh, Mr. Blanning explained at some length that the Commission had served cease and desist orders upon those who had operated this route, that the Commissioners had refused their applications for certificates, and that no further applications were pending. Further, said Mr. Blanning, the railways have carried goods for this company for a whole year since removal of the truckers from the scene, and that there seemed to be little reason for a trucking service between these cities!

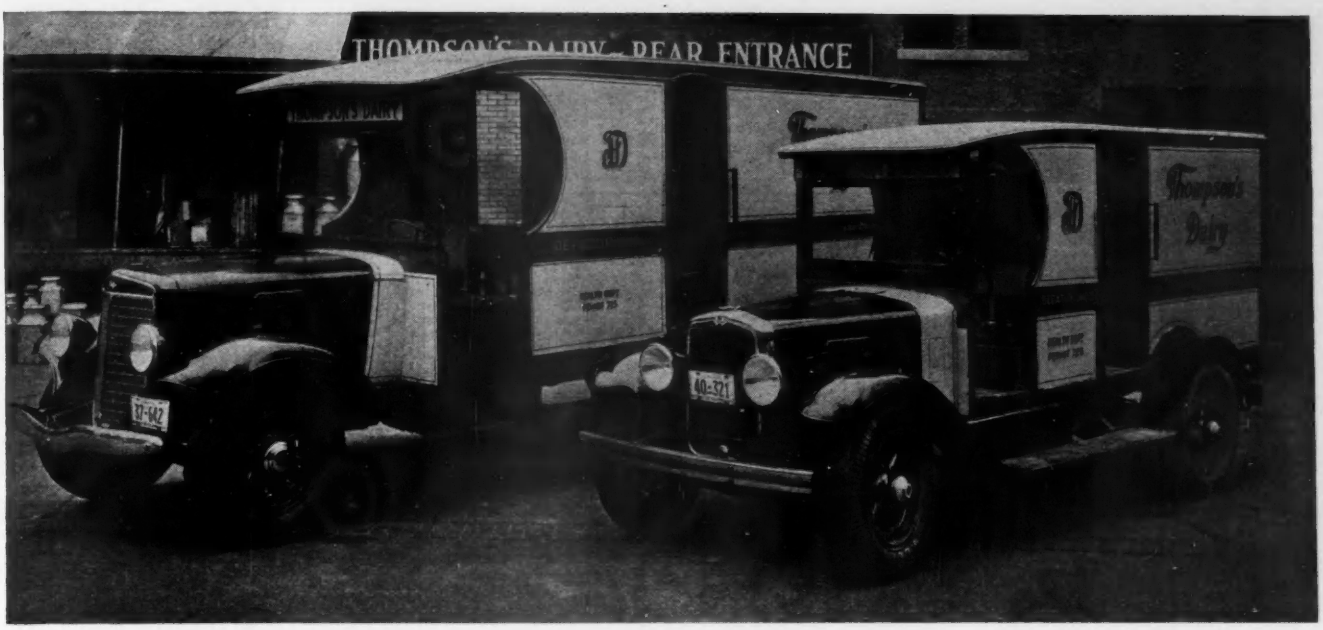
The truckers of the Western section of the State seem to have inferred that their chances of success are much improved if they limit their applications for certificates to very small routes, and this has led to the existence of many small charters.

To make a living they frequently risk "cease and desist" orders by "bootlegging" a little freight outside their allotted sphere of action. The value of these services is further minimized because the Commissioners limit the number of pieces of equipment the trucker may use in serving the public.

Another restriction that seems to have been devised by the railroads is the paragraph in General Order 29 denying the trucker the right to transfer shipments from one certificated route to another, even though he operate both in his own name, without special authorization of the Commission. The trucker, by virtue of the same paragraph, is not permitted to hand over shipments to any other carrier, whether water or air, without such permission from the Public Service Commission. *He can transfer his load to a railway!*

I have it on good authority that one trucker, to secure a certificate for a 65-mile branch route, was involved in an expenditure of $8000. Another

(TURN TO PAGE 45, PLEASE)



Exide economy cuts operating costs of dairy fleet

THOMPSON'S Dairy of Washington, D. C., operates a fleet of 72 trucks, most of them used for local delivery — a type of service that puts batteries to a real test.

They say: "We have standardized on Exide for replacement. Our type of service is exacting and does not permit of delays. We find that Exides not only give dependable, long-life service, but help to cut delivery costs by minimizing battery maintenance and assuring freedom from unexpected delays."

Fleet operators in all parts of the country, using trucks for local deliveries and long hauls alike, have learned that Exides mean money saved. This is because Exides are dependable, trouble-free and long lasting. They require a minimum of attention to keep them on the job. A simple maintenance routine, that takes no more time and trouble than inflating a set of tires, brings out all the long economical service built into every Exide Battery.

Exide Engineering Service, conducted by trained and experienced battery engineers, is available to fleet operators, free. Let Exide Batteries, plus this service, reduce your battery maintenance costs.

THE ELECTRIC STORAGE BATTERY CO., Phila.
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

In addition to the famous standard line of Exide Batteries, there is a new line of EXTRA-CAPACITY Exide Hycap Batteries featuring MIPOR—the exclusive new Exide permanent separator. They meet the most rigid winter starting requirements with power to spare.

Exide
BATTERIES
FOR EVERY TYPE TRUCK

Line Number	MAKE AND MODEL	GENERAL (See Keynote)						TIRE SIZE		ENGINE		TRANSMISSION			REAR AXLE					FRAME	
		Tonnage Rating	Chassis Price	Standard Wheelbase	Max. W. B. Furnished	Gross Vehicle Weight	Chassis Wt. (Stripped)	Front	Rear	Make and Model	No. of Cylinders, Bore and Stroke	Make and Model	Location, Forward Speeds	Aux. Location and Speeds	Make and Model	Gear and Type	Drive & Torque	GEAR RATIOS In High	GEAR RATIOS In Low	Side Rail Dimensions	Type
1	Autocar (N) RH	2½–6½	3250	174	192	.....	6893	B8.25/20	DB8.25/20	Own 314	6–3¾x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
2	.....(T) RHT	6–9	3250	150	174	.....	6746	B8.25/20	DB8.25/20	Own 314	6–3¾x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
3	.....(D) RHD	3–4	3250	150	160	.....	6619	B8.25/20	DB8.25/20	Own 314	6–3¾x4¾	Own T4	U 4	No	Own DF	2F	H	7.13	45.2	8x3x¼	T
4	.....(N) D	2½–6½	3550	174	192	.....	7055	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
5	.....(T) DT	6–9	3550	150	174	.....	6849	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
6	.....(N) DF	4–8½	3875	159	177	.....	7719	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DFA	2F	H	6.49	41.1	8x3x¼	T
7	.....(T) DFT	7½–12	3875	135	159	.....	7728	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DFA	2F	H	6.49	41.1	8x3x¼	T
8	.....(D) DF	3½–4	3725	150	160	.....	6891	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DFA	2F	H	7.13	45.2	8x3x¼	T
9	.....(D) DH	4–5½	4050	145	159	.....	7304	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own T4	U 4	No	Own N	2F	H	7.20	45.6	8x3x¼	T
10	.....(N) N	5½–8	4650	178	213	.....	8731	B9.75/20	DB9.75/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own N	2F	H	6.12	35.8	9x3x¼	T
11	.....(T) NT	7–11	4575	137	158	.....	8639	B9.00/20	DB9.00/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	8x3x¼	T
12	.....(N) NF	6–9	4900	178	213	.....	9190	B9.75/22	DB9.75/22	Own 404	6–4¼x4¾	Own D5	U 5	No	Own TF	2F	H	6.12	35.8	9x3x¼	T
13	.....(N) NFS	7½	5600	208	208	.....	10000	B10.50/20	DB10.50/20	Own 404	6–4¼x4¾	Own T4	U 4	No	Own TF	2F	H	7.20	45.6	9x3x¼	T
14	.....(T) NFT	7–15½	4900	137	158	.....	8905	B9.00/22	DB9.00/22	Own 453	6–4½x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	8x3x¼	T
15	.....(D) S	6–8	5850	165	165	.....	10016	B9.75/22	DB9.75/22	Own 453	6–4½x4¾	Own NA4	U 4	A 3	Own CGA	2F	H	7.69	87.0	9x3x¼	T
16	.....(N) CE	7½	6000	172	203	.....	10300	S36x7	DS40x8	Own 453	6–4½x4¾	Own T4	U 4	No	Own C	2F	R	8.57	54.4	9x3x¼	T
17	.....(N) T	7½–10½	5900	178	228	.....	9979	B10.50/22	DB10.50/22	Own 453	6–4½x4¾	Own D5	U 5	No	Own TG	2F	H	7.20	42.1	9x3x¼	T
18	.....(N) TS	10	6600	204	204	.....	10823	B10.50/24	DB10.50/24	Own 453	6–4½x4¾	Own T4	U 4	No	Own TG	2F	H	8.68	55.0	10½x3x⅜	T
19	.....(T) TT	8½–15	6150	137	158	.....	9883	B9.75/20	DB9.75/20	Own 501	6–4½x5¼	BL 7351	U 5	No	Own CG	2F	H	7.69	45.0	9x3x¼	T
20	.....(D) C	10–14	6800	165	165	.....	11375	B10.50/24	DB10.50/24	Own 501	6–4½x5¼	BL 7341	U 4	A 3	79733W	2F	H	7.97	96.7	10½x3x⅜	T
31	.....(N) TF	15	7500	236	250	.....	12053	B10.50/24	DB10.50/24	Wau 6RB	6–5x5¾	BL 7351	U 5	No	Own CGA	2F	H	7.69	45.0	10½x3x⅜	T
22	.....(T) TFT	15	7500	147	168	.....	11537	B10.50/24	DB10.50/24	Wau 6RB	6–5x5¾	BL 7351	U 5	No	Own CGA	2F	H	7.69	45.0	10½x3x⅜	T
23	e.u.s. (N) UD	3½–6½	3750	109	145	.....	7629	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
24	e.u.s. (T) UDT	5½–8½	3750	109	109	.....	7623	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DF	2F	H	6.49	41.1	8x3x¼	T
25	e.u.s. (D) UDP	4–5½	4650	100	100	.....	8525	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own D5	U 5	No	Own C	2F	H	7.85	45.9	8x3x¼	T
26	e.u.s. (N) UDF	5–8½	4075	109	145	.....	8357	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own T4	U 4	No	Own DFA	2F	H	6.49	41.1	8x3x¼	T
27	e.u.s. (T) UDFT	7–11½	4250	91	109	.....	8262	B9.00/20	DB9.00/20	Own 358	6–4x4¾	Own T4	U 4	No	Own C	2F	H	7.20	45.6	8x3x¼	T
28	e.u.s. (N) UN	5½–8	4875	109	163	.....	9259	B9.00/22	DB9.00/22	Own 404	6–4¼x4¾	Own D5	U 5	No	Own C&N	2F	H	7.20	42.1	8x3x¼	T
29	e.u.s. (T) UNT	6½–11	4600	96	109	.....	8665	B9.00/20	DB9.00/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	8x3x¼	T
30	e.u.s. (N) UNF	6½–9	5100	128	163	.....	9731	B9.75/20	DB9.75/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own TF	2F	H	6.12	35.8	9x3x¼	T
31	e.u.s. (T) UNFT	6½–15½	5000	96	109	.....	8935	B9.00/20	DB9.00/20	Own 453	6–4½x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	8x3x¼	T
32	e.u.s. (N) UNFS	7½	5600	145	145	.....	9585	B10.50/20	DB10.50/20	Own 404	6–4¼x4¾	Own T4	U 4	No	Own TF	2F	H	7.20	45.6	9x3x¼	T
33	e.u.s. (N) UT	7½–10½	6000	128	163	.....	10494	B9.75/24	DB9.75/24	Own 453	6–4½x4¾	Own D5	U 5	No	Own TG	2F	H	7.20	42.1	9x3x¼	T
34	e.u.s. (N) UTS	10	6600	145	145	.....	10927	B10.50/24	DB10.50/24	Own 453	6–4½x4¾	Own T4	U 4	No	Own TG	2F	H	8.68	55.0	10½x3x⅜	T
35	e.u.s. (T) UTT	6–15	6100	109	109	.....	10031	B9.00/20	DB9.00/20	Own 501	6–4½x5¼	BL 7351	U 5	No	Own CG	2F	H	7.69	45.0	9x3x¼	T
36	e.u.s. (D) US	6–8½	5700	120	120	.....	10018	B9.75/22	DB9.75/22	Own 453	6–4½x4¾	Fu F5	U 5	No	Own CGA	2F	H	7.69	62.0	9x3x¼	T
37	Brockway...130-PS	4–4½	2525	164	206	.....	6250	P34x7	DP34x7	Con 29-B	6–3⅛x4½	Fu5-A-38	U5	Op	Tim58205H	SF	R	6.14	48.5	8x3x¼	B
38	Indiana.....87	2	895	131	180	1400	4000	B6.50/20	DB6.50/20	Her-JXB	6–3⅛x4¼	WG–T9	U4	No	Tim.54413Al	SF	H	6.8	43.5	7¼x2¾x⅜	T
	Four-Wheel-Drive																				
39	Autocar...(D) 4DF	3	5000	159	159	.....	8461	B9.00/20	DB9 00/20	Own 404	6–4¼x4¾	Own T4	U 4	A 2	Tim 5001H	2F	H	7.35	114.	8x3x¼	T
40	.....(D) 4N	4½	6500	165	165	.....	9920	B9.75/20	DB9.75/20	Own 453	6–4½x4¾	Own T4	U 4	A 2	Tim 72000L	2F	H	7.27	117.	9x3x¼	T
41	.....(D) 4S	6	7600	165	165	.....	11165	B10.50/22	DB10.50/22	Own 501	6–4½x5¼	BL 7341	U 4	A 2	Tim F313H	2F	H	7.52	120.	10½x3x⅜	T
42	Mar.-Herr.....B5-4	1½–3	1295	132	...	.....	4040	B6.00/20	DB6.00/20	Ford V8	8–3 1/8x3¾	WG T9	U4	A 2	Ford	SF	R	6.6	85.2	7x2¾x⅞	C
43	.....B6-4	1½–3	1345	157	...	.....	4154	B6.00/20	DB6.00/20	Ford V8	8–3 1/8x3¾	WG T9	U4	A 2	Ford	SF	R	6.6	85.2	7x2¾x⅞	C
44	.....B10-4	2–2½	2490	143	Op	.....	4430	B6.50/20	DB6.50/20	Her JXB	6–3⅝x4¼	WG T9	U 4	A 2	Tim 53200	BF	H	6.6	82.4	7¼x2½x1	C
45	.....B20-4	2½–3	2820	143	Op	.....	4665	B7.00/20	DB7.00/20	Her JXC	6–3¾x4¼	Fu 5A29	U 5	A 2	Tim 53300	BF	H	6.6	96.9	7¼x2½x1	C
46	.....B30-4	3–3½	3250	143	Op	.....	5155	B7.50/20	DB7.50/20	Her JXD	6–4x4¼	Fu 5A29	U 5	A 2	Tim 54200	BF	H	5.83	85.6	7¼x2½x1	C
47	.....B40-4	3½–4	4550	158	Op	.....	7000	B8.25/20	DB8.25/20	Her WXC3	6–4¼x4½	Fu 5A380	U 5	A 2	Tim 56200	BF	H	6.16	105.	9½x3x⅝	C
48	.....B50-4	4–5	4875	158	Op	.....	7895	B9.00/20	DB9.00/20	Her WXC3	6–4¼x4½	Fu 5A380	U 5	A 2	Tim 58200	BF	H	7.8	133.	9½x3x⅝	C
49	.....B60-4	5–6	6500	161	Op	.....	8785	B9.00/20	DB9.00/20	Her RXB	6–4½x5¼	Fu 5A530	U 5	A 2	Wis 72000	2F	H	7.27	130.	9½x3x¼	C
50	.....B70-4	6–7	8895	161	Op	.....	9880	B9.75/20	DB9.75 20	Her RXB	6–4½x5¼	Fu 5A530	U 5	A 2	Wis 1337	2F	H	7.52	135	10 1/8 x3 1/8	C
52	.....B80-4	7–9	9750	161	Op	.....	10420	B10.50/20	DB10.50/20	Her RXC	6–4¾x5¼	Fu 5A530	U 5	A 2	Wis 1737	2F	H	8.05	144.	10⅛x3x⅜	C
51	.....TH415-4	7–9	11875	180	Op	.....	12500	B10.50/20	DB10 50/20	Her HXB	6–5x6	BL 7341	U 4	A 3	Wis 1737	2F	H	8.05	128.	8⅛x3x⅜	P
53	.....TH420-4	8–10	12750	180	Op	.....	13750	B10.50/20	DB10.50/20	Her HXD	6–5½x6	BL 7341	U 4	A 3	Wis 1910	2F	H	8.88	163.	10x3x⅜	P
54	.....(13) BD30-4	3–3½	4425	143	Op	.....	5615	B7.50/20	DB7.50/20	Her DJXB	6–3 1/8x4½	Fu 5A29	U 5	A 2	Tim 54200	BF	H	5.83	85.6	7⅛x2½x1	C
55	.....(13) BD70-4	6–7	11350	161	Op	.....	10775	B9.75/20	DB9.75/20	Her DRXB	6–4¾x5¼	Fu 5A530	U 5	A 2	Wis 1337	2F	H	7.52	135.	10⅛x3x⅜	C
56	.....(13) BD80-4	7–9	12150	161	Op	.....	11315	B10.50/20	DB10.50/20	Her DRXB	6–4¾x5¼	Fu 5A530	U 5	A 2	Wis 1737	2F	H	8.05	144.	10⅛x3x⅜	C
57	...(13) THD415-4	7–9	14400	180	Op	.....	13300	B10.50/20	DB10.50/20	Her DHXB	6–5x6	BL 7341	U 4	A 3	Wis 1737	2F	H	8.05	128.	8⅛x3x⅜	P
58	...(13) THD420-4	8–10	15100	180	Op	.....	14500	B10.50/20	DB10.50/20	Her DHXB	6–5x6	BL 7341	U 4	A 3	Wis 1910	2F	H	8.88	163.	10x3x⅜	P
	Six-Wheelers																				
59	(a) Autocar 6RH 2C	7–9	3600	174	192	.....	9456	B8.25/20	DB8.25/20	Own 314	6–3¾x4¾	Own T4	U 4	No	Own B	2F	H	7.20	45.6	8x3x¼	T
60	.....6D 2C	7–9	3900	174	192	.....	9545	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own B	2F	H	7.20	45.6	8x3x¼	T
61	.....6DF 2C	6½–11	3950	159	177	.....	9752	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own B	2F	H	7.20	45.6	8x3x¼	T
62	.....6N 2C	9–10½	4625	178	213	.....	11487	B9.00/20	DB9.00/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	9x3x¼	T
63	.....6NF 2C	10–12½	5175	178	213	.....	12019	B9.00/22	DB9.00/22	Own 453	6–4½x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	9x3x¼	T
64	.....6T 2C	10½–12	6250	203	217	.....	13233	B9.75/20	DB9.75/20	Own 501	6–4½x5¼	BL 7351	U 5	No	Own CG	2F	H	7.69	45.0	10½x3x⅜	T
65	.....6TF 2C	15–20	7500	210	223	.....	14567	B10.50/24	DB10.50/24	Wau 6RB	6–5x5¾	BL 7351	U 5	No	Own CGA	2F	H	7.69	45.0	10½x3x⅜	T
66	e.u.s. 6UD 2C	6½–11½	4200	127	145	.....	10064	B8.25/20	DB8.25/20	Own 358	6–4x4¾	Own T4	U 4	No	Own B	2F	H	7.20	45.6	8x3x¼	T
67	e.u.s. 6UN 2C	9–10½	4925	128	163	.....	12032	B9.00/20	DB9.00/20	Own 404	6–4¼x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	9x3x¼	T
68	e.u.s. 6UNF 2C	10–12½	5250	128	163	.....	12292	B9.00/22	DB9.00/22	Own 453	6–4½x4¾	Own D5	U 5	No	Own C	2F	H	7.20	42.1	9x3x¼	T
69	e.u.s. 6UT 2C	11–12½	6300	145	163	.....	13473	B9.75/20	DB9.75/20	Own 501	6–4½x5¼	BL 7351	U 5	No	Own CG	2F	H	7.69	45.0	10½x3x⅜	T
70	Mar.-Herr.....B5-6	3–6	2425	154	...	.....	5563	B6.00/20	DB6.00/20	Ford V8	8–3 1/8x3¾	WG T9	U 4	A 2	Tim	SF	B	6.6	85.2	7x7½x2¾	C
71	.....B6-6	3–6	2475	179	...	.....	5629	B6.00/20	DB6.00/20	Ford V8	8–3 1/8x3¾	WG T9	U 4	A 2	Tim	SF	B	6.6	85.2	7x7½x2¾	C
72	.....B40-6	7–9	6350	158	Op	.....	8690	B8.25/20	DB8.25/20	Her WXC3	6–4¼x4½	Fu 5A380	U 5	A 2	Tim SD151	2F	R	9.33	159.	9½x3x¼	C
73	.....B70-6	10–12	10420	161	Op	.....	11415	B9.00/20	DB9.00/20	Her RXB	6–4½x5¼	Fu 5A530	U 5	A 2	Tim SD251	2F	R	7.83	140.	10⅛x3x⅜	C
74	.....B80-6	12–14	11900	161	Op	.....	13690	B9.75/20	DB9.75 20	Her RXC	6–4¾x5¼	Fu 5A530	U 5	A 2	Tim SD353	2F	R	8.15	146.	10⅛x3x⅜	C
75	.....TH415-6	14–17	14000	192	Op	.....	16690	B9.75 20	DB9.75/20	Her HXB	6–5x6	BL 7341	U 4	A 3	Tim SD353	2F	R	9.11	145.	8⅛x3x⅜	P
76	.....TH420-6	17–20	16000	198	Op	.....	18300	B10.50/20	DB10.50/20	Her HXD	6–5½x6	BL 7341	U 4	A 3	Tim SD453	2F	R	9.11	167.	10x3x⅜	P
77	.....(13) BD70-6	10–12	12850	161	Op	.....	12340	B9.00/20	DB9.00/20	Her DRXB	6–4¾x5¼	Fu 5A530	U 5	A 2	Tim SD251	2F	R	7.83	140.	10⅛x3x⅜	P
78	.....(13) BD80-6	12–14	14350	161	Op	.....	14615	B9.75/20	DB9.75/20	Her DRXB	6–4¾x5¼	Fu 5A530	U 5	A 2	Tim SD353	2F	R	8.19	146.	10⅛x3x⅜	P
79	...(13) THD415-6	14–17	16650	192	Op	.....	17475	B9.75/20	DB9.75/20	Her DHXB	6–5x6	BL 7341	U 4	A 3	Tim SD353	2F	R	9.11	145.	8⅛x3x⅜	P
80	...(13) THD420-6	17–20	18400	198	Op	.....	19050	B10.50/20	DB10.50/20	Her DHXB	6–5x6	BL 7341	U 4	A 3	Tim SD453	2F	R	9.11	167.	10x3x⅜	P

Makers' Corrections in Specifications Published in July

BROCKWAY—Model 160X—Chassis priced now 3295. **Model 170X**—now 3640. **Model 165X**—now 3795. **Model 165**—now* 3795. **Model 175X**, line 71—now 4290. **Model 195X**—now 4230. **Model 220X**—now 4930. **Model 260X**—now 6030. **Model 260S**—now 6380.

CORBITT—All models except **1146** and **Diesels**—Carburetor make now Str.

DAY-ELDER—Model 241—Brake lining area now 692.

DIAMOND T—Model 220—Rear axle make and model now Cla B8001. **Model 211A, 227, 243**—Compression ratio now 5.3. **Models 412B, 512B, 412DR, 512DR**—Compression ratio now 5.5. **Model 211A, 220**—Brake lining area now 248. **Model 227**—now 259. **Model 243**—now 270. **Models 512, 412DR**—now 400.

DODGE BROS.—Model KT42—Tonnage rating now 2-4. **Model KDH31**—Chassis price now 535. **Model KS32**—Chassis price now 825. **Model KT42**—Chassis price now 795. **Model KT42**—Chassis wt. now 3440. Tire size rear now DB6.00/20. Torque lb. ft. now 160. All models—radiator make now own. All models—clutch make and type now P own.

GENERAL MOT—Model T43—Frame type now T.

INDIANA—Model 86—Chassis wt. now 3300. **Model 86T**—Chassis wt. now 3850. **Models 20DR, 49DR**—Piston material now A. **Models 86, 86T**—Front axle make now Spi 91. **Model 86T**—Springs auxiliary type now ½.

REO—Models 4H, 4J, 4K, 4M—Gross vehicle wt. now 22000.

WHITE—Model 703—Tonnage rating now 1¼-1½. **Model 730**—Std. Wheelbase now 144. **Model 731**—Std. Wheelbase now 144. **Model 703**—Max. wheelbase now 178. **Model 704**—Chassis wt. now 4740. **Model 1704A**—Now 4810. **Model 1709**—now 5410. **Model 709A**—now 5490. **Model 712**—now 6500. **Model 620K**—Rear axle gear and type now 2F. **Models 640, 640K**—Fuel feed now M. **Models 641, 641K, 642, 643**—Fuel feed now M. **Models 701, 703**—Auxiliary type springs now N.

WILLYS—Model 77 Cab Pickup—Gross vehicle wt. now 2040. **Model 77** panel delivery—Gross vehicle wt. now 2195.

| Line Number | ENGINE DETAILS | | |

New Products on Parade

Descriptions of the Latest Items Put on the Truck Market by Equipment and Specialty Manufacturers

Self-Vulc Rubber

A RUBBER in liquid form, and a rubber in plastic form, are being offered by the Self-Vulcanizing Rubber Co., Inc., 605 W. Washington Blvd., Chicago.

The application of this new liquid rubber called "Self-Vulc" has recently been improved by the development of a new priming compound, which makes good results possible by the application of a single priming coat; and both the priming and liquid rubber can be applied just like paint—brushed on, sprayed on, dipped on, or poured on. The rubber vulcanizes itself when exposed to the air. The material has many uses.

Hand-ee Grinder

THE DeLuxe Hand-ee Grinder will operate on either AC or DC current of 110-120 volts. The bearings are fully protected and sealed with lubricant sufficient to last the life of the bearings.

The chuck is of the collet type and the

DeLuxe handy grinder

switch has spring sliding contacts. The speed is 25,000 r.p.m. idle and 18,000 at normal work. The power is sufficient to drive a 1¼ in. wheel. The armature is statically and dynamically balanced with a special in-built radial type commutator. The weight complete is 15 oz., 10 oz. of which is the motor. It is made by the Chicago Wheel and Mfg. Co., 1101 Monroe St., Chicago, Ill.

Allbestos TestABrak

WITH this new Allbestos king pin TestABrak it is possible for an operator to have before him at all times visual proof of the condition of his brakes. TestABrak can be installed permanently on the steer-

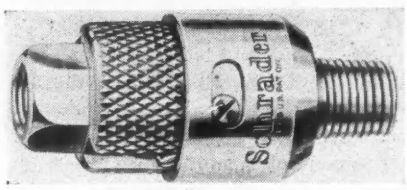
King Pin TestABrak

ing wheel post of passenger cars, trucks and buses. It indicates whether the brakes are in a safe, doubtful or dangerous condition. It also records the approximate distance required to stop, at speeds of 20, 30 and 40 miles per hour and this record may be read at any time after the test is made. TestABrak has been calibrated and checked with a well-known standard make of decelerometer, used by State Highway patrol officers. Allbestos Corp., 21st & Godfrey Avenue, Philadelphia, Pa.

Schrader Couplers

SCHRADER quick acting couplers are especially adaptable for attaching and disconnecting airline equipment. Grease guns, spray guns, car lifts, air chucks, blow guns, chuck gauges, etc., may be interchanged at one or several pipe outlets, as well as at the working end of the hose.

They are made of cadmium plated steel



Schrader coupler

and are absolutely airtight with a free flow of air when in operation. The working parts are a replaceable tripping deflator and rubber washer. A. Schrader's Sons, Brooklyn, N. Y.

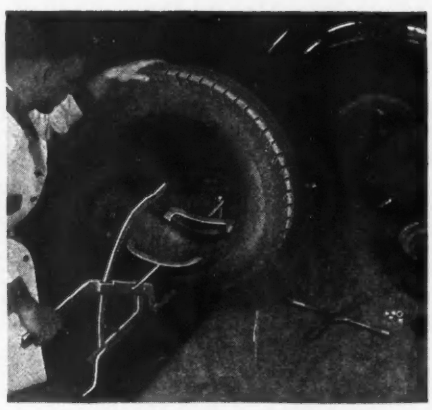
Pedrick Jet Resizer

THE jet adjustable resizer provides a controlled means of expanding collapsed piston skirts to the proper diameter to give exactly the correct clearance between the piston and the cylinder wall. It will expand the skirt at the top or bottom or evenly for the full length, according to requirements and condition of the piston. It provides the exactly correct clearance between cylinder wall and piston skirt to a fraction of one-thousandth of an inch. The tension is under absolute control. A locknut keeps the resizer permanently in place. It is applied at the correct point for the desired result in each installation. One size fits all pistons. Installation is easy. It is the product of the Wilkening Mfg. Co., Philadelphia, Pa. List price is 75c.

Bear Tire Spreader

BEAR jiffy tire spreader is a portable one man tool. You can use it on the floor, on the curb, on a bench, or wherever you may have occasion to inspect a tire.

With the Bear Jiffy, it is simply a matter

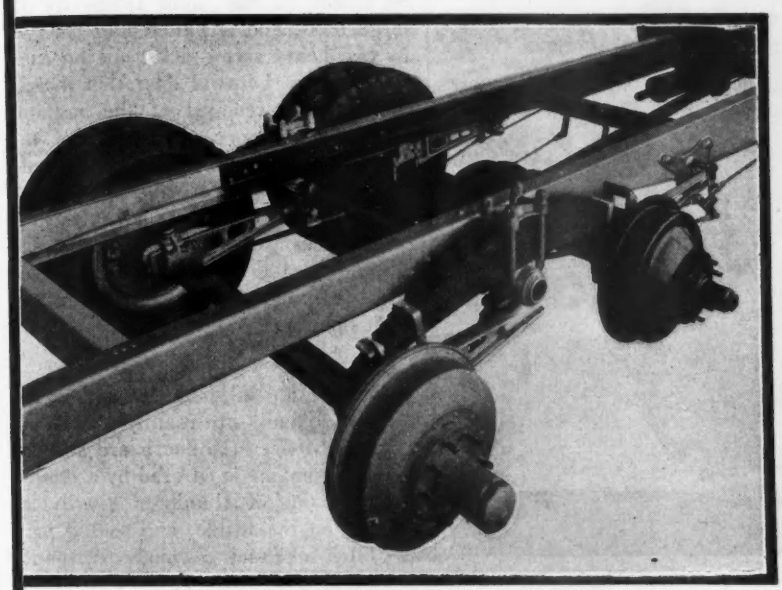


Bear jiffy tire spreader

of rolling the tire onto the spreader—no lifting necessary. The grips are quickly adjusted to the tire bead and spread with little effort, and the spreading mechanism is equipped with an exclusive self-locking device that is secure and positive in operation.

It spreads all sizes of tires from the smallest to the largest heavy duty. Fleet owners can use it in their shops and for highway emergency tire changes, For further information write the Bear Mfg. Co., Rock Island, Ill.

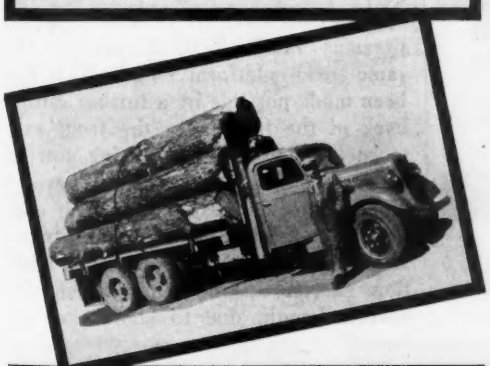
It CAN be hauled—



CLOSE-UP of the NEW ACME SIX WHEELER MODEL 60—Showing the Simplicity of Construction, Matched by Strength to give Performance.

✓ SAFER
✓ QUICKER
✓ CHEAPER
ON THE
ACME SIX WHEELER
EQUIPPED FORD OR CHEVROLET

Here's NEWS for economy-wise truckers



Without sacrificing the proven economy of today's light truck, ACME equipment increases load-capacity to a point where profits may be tripled. Tremendous loads can be rolled "right on her back" with ease and safety. For any load over any road ACME means lower investment, lowest operating cost, greater speed and easier handling. There are no losses from hauling around useless weight because the ACME equipped truck weighs less per pound of gross capacity than any other heavy duty equipment.

●

In Capacity, Quality, Performance and Simplicity of design and application the NEW ACME is positively unsurpassed. Take note of the 3¾" Tubular Axle, Bendix 16" Brakes in Cast Drums, Reinforcing Channels extending under cab at front and long enough to give adequate support for maximum length body, Tubular Cross Shaft providing extra large bearing for pivotal mounting of spring, Spring ends resting loosely on easily replaceable malleable Iron Wear Pads. These are STANDARD features incorporated in a unit of exceptional strength for safe, dependable performance. Only ACME has ALL these features—You need them ALL.

●

Get all the facts on this Modern, Money-Saving equipment before considering any other type. You'll be surprised to find how small an investment will provide you with the most up-to-the-minute, neat appearing heavy-duty six wheeler. WRITE TODAY.

●

ACME SIX WHEELER CO.

There is a Distributor near you to serve you

CADILLAC - - - - - - - MICHIGAN

A one man tool that spreads all sizes of tires easily, quickly. Just the thing for roadside emergency jobs.

NEW BEAR JIFFY SPREADER

handles all sizes of tires, anywhere

On the floor—on the curb—on the roadside. Here is a portable one man tool you can use whenever and wherever the occasion arises. Just the thing for roadside emergency jobs.

Roll tire onto base of spreader. Grips are quickly adjusted to bead of tire. Self-locking device is secure and easy to operate. Spreads all sizes of tires up to the largest heavy duty. Quick—easy—handy. Light weight —low price means that you can equip every truck with this tool. Soon pays for itself. Bear Mfg. Co., Rock Island, Ill.

Ask your Jobber—or write direct to us.

Mack Redesigns Traffic Models

(CONTINUED FROM PAGE 34)

indirect lighting. Besides the usual instruments, the board is fitted with a combination gasoline and crankcase-oil-capacity gage. By merely pressing a button, the driver is able to instantly determine from the gasoline gage just how much oil there is in the crankcase. Other cab appointments include automatic windshield wipers, rear-view mirrors, dome light and coat hooks.

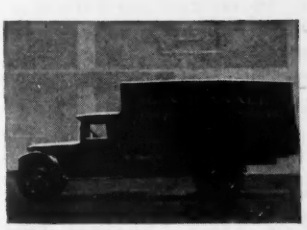
The new mounting of the powerplant permits the withdrawal of the engine, clutch, transmission and radiator as a unit. The roll-out feature comprises a subframe mounting of the powerplant whereby it may be rolled out the front of the truck on its own rollers, so that the removal or replacement of the powerplant can be accomplished by one man in about an hour and a half. The subframe to which these components are permanently mounted has four rollers which are disposed within the channel of the main frame side members, upon which it rolls when being pulled out or pushed into position. When in position, however, these rollers are idle, the subframe being then rigidly locked to the main frame by 12 large bolts, and is pulled into position by two heavy screw-jacks, one on each side. The withdrawal operation merely requires the removal of the radiator grille and bumper, the lifting of the engine inclosure within the cab, and the disconnecting of the powerplant. To simplify the latter, all electrical connections are disconnected with one motion through a multiple connector and socket located under the instrument board.

FOR routine adjustments and minor repairs all units are readily accessible. Located between the floorboard and the seats, the engine is covered by a double shell housing of aluminum heavily insulated on the inside, and seated in a felt-filled channel to make it sound, heat and gas-proof. This enclosure is in two parts, the main housing being hinged at the rear while the smaller housing is fitted against the front sheet. The main housing may be raised and held back against the back of the cab providing access to the spark plugs, distributor, generator, oil filter, and valve tappets. Toggle-hood latches hold the housing tight. The rear of the engine enclosure terminates in a grille in the back of the cab, through which a part of the radiator air escapes. The seats are so arranged that they can either be readily folded flat against the back of the cab or removed.

WHEELBASES are 6 in. less than on previous Traffic Type Macks for the same given platform length. This has been made possible by a further setting back of the front axle, the front axle to back-of-cab dimension being now 24 in. as compared with the previous dimension of 30 in. Retaining their one-third, two-thirds gross weight distribution, these chassis now have, in addition, shorter turning radii and shorter overall length, due to shorter wheelbases.

Mechanical details of these trucks remain unchanged, the CH being powered by the Mack 4 x 5½, 108-hp. engine; the CJ by the 4¼x5½, 118-hp. engine, both of which have proved successful in these models for the past two years. Drive from the dry single-plate clutch is taken through a four-speed selective sliding gear unit transmission and thence through a two-part driveshaft with four universal joints to a Mack dual reduction rear axle.

When all the evidence of better performance stacks up on the side of one spark plug, that spark plug is the logical choice of bus and truck operators who demand maximum performance from their equipment. We feel that the use of Champion Spark Plugs by practically every racing champion and the continuing preference given them the world over, constitute performance evidence wholly without precedent.



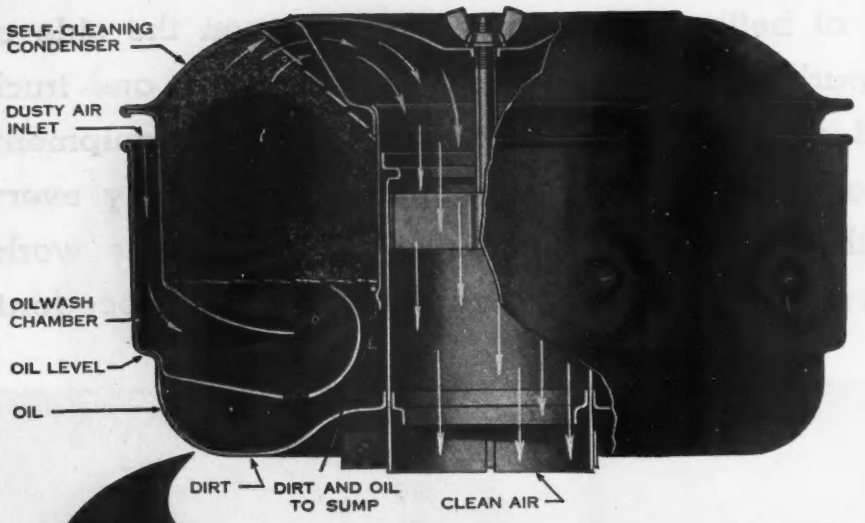
NEW YORK—"... *after trying all the leading makes of spark plugs we are using Champions exclusively as we find they are consistently reliable...*" *Writer, John J. Casale, Inc., operators of 250 trucks, provide this evidence of Champion dependability.*

PITTSBURGH—*Haller Baking Company, operating the largest bakery fleet in the city, are Champion users. Where dependability, economy and top performance are necessary, Champion Spark Plugs are the leading preference.*

NEW YORK—"... *We have been using Champions exclusively for the past four years in our fleet of 110 vehicles... we have found Champions absolutely dependable and entirely satisfactory...*" *Interborough News Company.*

SAN FRANCISCO—*Pacific Greyhound Lines maintain schedules despite rigorous climatic and altitude conditions. For five years Champions have been used exclusively in these engines, which travel over 1,500,000 miles each month.*

TO KEEP ENGINES YOUNG • TEST AND CHANGE SPARK PLUGS AT REGULAR INTERVALS



The dirt goes down

As a dirt catcher, Handy Perfection Air Cleaner, oil-wash type, has won every fair test in which it ever competed. It cleans air CLEAN. But that is only half the story.

Take a Handy-equipped motor right into the severest dust storm. Drive all day without stopping. Then inspect.

You may lift out a pound of dirt with the Handy sump. *But the Handy condenser will be as clean as it was at the start.*

For the Handy cleans ITSELF as it cleans the air. The dirt it catches works DOWN, not UP.

Just think! No more need for messy cleaning operations which many operators simply won't perform! All the benefits of air cleaning without the fatal drawback!

Study the exclusive Handy principle, shown above. See how Handy obsoletes all other air cleaners. Special models for tractor use. Write us for full details.

HANDY GOVERNOR CORPORATION
DETROIT

HANDY *Perfection (Oil Wash)* AIRCLEANER

Replacement of Trucks Can Be Made a System

(CONTINUED FROM PAGE 14)

years, as it had done in the past. That is not well-planned management nor economical operation.

Keeping the fleet modern enables you to know just where you are going as to operating expense. When you replenish virtually the whole fleet at one time you have a very low operating expense for the first year or so. Thereafter you have a constantly rising one. By our method of maintaining the *net* investment—original cost less the depreciation reserve—at a constant level it rests upon the efficiency of your plan and control of maintenance whether you realize a decreasing expense, to be represented by a downhill line. When the replacement is intermittent—frequently with very long intervals—you have only a sawtooth, or up and down line. Of course, even by our plan, some day you reach an irreducible minimum, for you can't continue to decrease expenses forever, but with the recurrent, or semi-occasional method of replacement you never decrease at all, and you have no way of gauging your progress toward economy.

Another phase of real modernization has to do with fashions in motor vehicles. Many companies are buying stream-line effects in motor equipment. But the fashion lasts only two or three years. Then it is out of date and you have on your hands an entire fleet of old-style units, which you must either scrap, at great expense, or else continue to operate as an out-of-date asset—or, I should say, perhaps, a liability. But if you keep your fleet up to date by replacing only a comparatively few units per year, you can adhere to fashion in part, if you wish, and not destroy so much of the value of your holdings. The stream-line effect, in fact, is really only an added expense, without particular advertising value, for if everyone does it there is no particular advantage for one over the other. Also, you are not creating a demand for your goods, because you do not thus cause any one to want to buy your product. You merely let them know, more forcibly than usually, that you are in business. They know that already, through other things, the established service stations and so on. We are trying to develop modern lines in our truck building or buying, consistent with the greatest utility and value.

We believe we have one of the best methods of keeping our fleet modern at lowest possible cost. If anyone has a better one, we would like to know of it.

Valve Seat Grinders

THE Rinck-McIlwaine, Inc., New York, have a series of valve seat grinding sets for general use and sets especially designed for certain popular engines. The sets will grind either hard or soft seats.

The sets consist of a universal joint drive, metal cones, abrasive cones and pilots. The power is supplied from your own ¼-in. electric drill. The sets range in price from $12.60 to $28.90. It is possible to buy only the parts that are needed or to buy sets a part at a time.

Tapley Indicator

THE Tapley Brake Efficiency Indicator will give readings both in per cent of brake efficiency and in foot-stopping distance. It may be mounted on the dash or a universal clip is provided for mounting and quick removal from any part. It will show steepness of grades. It fits handily in the pocket and sells complete with a leather case for $16. It is imported for Tapley & Co., Totton, England, by E. C. Cheswell, Melrose Highlands (77), Mass.

Hydraulic Floor Jack

THE Herb Smith Equipment Corp., Rochester, N. Y., announces their new 3-ton Hydraulic Floor Jack. Capacity is 6000 lb., weight 195 lb., and it lifts from four to 24 in.

It has a self-cleaning release valve and a safety by-pass valve inside of oil box.

TIPS ON DRIVER TRAINING FROM A MENTAL ENGINEER

(Continued from page 33)

tive. A good illustration of the value of a positive program is shown by the effects of a negative one based on experience in which I had the opportunity of observing the actions of the drivers of a fleet who were being badly handled.

THE drivers came into the garage in the morning and were greeted by a legend on the bulletin board which told them, "John Jones got one week off without pay for letting his helper drive his truck." The drivers viewed this inspiring message on their way to a safety meeting. When they got to the safety meeting a superior yelled at them like a Marine top sergeant drilling recruits their first day on the parade ground. The insertion of the safety meeting caused all the drivers to get their trucks loaded and under way later than usual. The drivers knowing they were stuck for a long day stopped at lunch wagons along their routes and had a late breakfast.

As a result of a late breakfast they were not ready to eat at noon so most of them put off their mid-day meal until about 3 o'clock in the afternoon, meantime hurrying and trying to cover too much ground with the result that they were inviting accidents and complaints. After spending too much time at their late lunch complaining to themselves or others about their treatment at the hands of the company, they found that the break in their routine had upset their digestive systems making them even more uncomfortable. They hurried their late deliveries and returned late to the garage at a dangerous pace.

When they started to settle up their accounts they found that the money in hand did not balance with their delivery book. Not being particularly adept at arithmetic they spent in the neighborhood of two hours getting straight during which time they received no sympathy but a lot of abuse from the cashier who was in a hurry to get home. The drivers got home late in a very disagreeable mood and in some cases transferred their ire to their families who were ready to meet them halfway because they had to wait dinner or got cheated out of a trip to the early moving picture show. So after an unsatisfactory evening with their families and their digestive systems still upset the drivers returned to work late the next day and the same thing began all over again.

IF the sign on the bulletin board would have said, "Drivers are responsible for the trucks they take out of the garage and only drivers are permitted by the company to drive them," the bulletin would have had the effect the company wanted it to have. And if the safety meeting would have been a short session devoted to education or a period of reasoning with the drivers it would have had a desirable effect and the drivers would have started out nearly on time and would have eaten at regular hours and behaved as they did on other days. Should there have been some supervision of the handling of drivers when they reported in a little late and possibly some help because of the lateness much of the sting of being late would have been removed.

To get back to *driver training*, posters if used moderately and positively have a desirable effect. However, do not look for posters or slogans alone to improve your accident record. Dr. S. M. Shellow for many years psychologist with the Milwaukee Electric Railway and Light Co. makes this interesting comment: "Most safety posters are not specific enough. Pictures of children who wait for their daddy to return home safe, do not make for safe habits. Safe habits are built by specific instructions, and only posters which show how a particular job should be done correctly together with pointing out the results of carelessness, are effective, in my opinion. For years I sat on the safety committee reviewing all accidents and methods of preventing them. I believe that the only effective way to reduce accidents is by getting right down to habits of work, and seeing that safe habits become automatic. Conferences do, however, help —especially if they are specific enough. We had conferences on such items as, 'How to prevent accidents of alighting and boarding passengers,' 'How to prevent head-on-collisons,' etc. After each conference the curve for that type of accident took a decided drop."

TRAINING of drivers should include education in the things the company wants the driver to know in connection with his job. The training of drivers who deliver whole truck-loads to one customer is more simple and easy than that of the driver who must deliver parcels. The second driver comes in contact with many different kinds of people and new situations are being constantly created. He must be educated to think more quickly and he must have favorable reactions to more situations.

Businesses of a highly seasonal nature have a more difficult problem. Except in unusual circumstances they can hold drivers for a limited time only. In this case the company may supply the drivers with information on home study courses or night courses which prepare the driver for some other method of earning a living. He may never use it and again the company may lose him entirely. Other drivers may use the new knowledge to get jobs that will keep them in the off season and will return in the busy season. No matter which way it works out a loyalty and a friendly feeling is created between the company and the driver which will work to the company's advantage as well as to the driver.

The educational and inspirational group meeting are important but they are not complete. The personal relations between the company and each individual driver demand just as much attention. The company must keep itself informed on the men's home conditions and changes in their financial status. Changes in attitude and personality difficulties also affect driver's efficiency and safety. Allowances must be made for inexperience and harmless methods of gaining experience must be devised. The best of drivers will slip into faulty operating habits so the company will have to have a jacking-up process always in operation.

EVEN selected men do not all learn new things with the same speed. For this reason some time allowance will have to be made for certain drivers to acquire new knowledge that other drivers have no trouble in putting into effect. Periodic health examinations are necessary if the company wishes to maintain a high standard. Because the drivers at the time of their selection are in good physical condition is no reason to assume that they will remain in that state. And finally there are the individuals who just simply cannot adjust themselves to the nature of the work and the company would be doing itself and the individual a service by transferring them to another kind of work.

What can the fleet owner do about the proper management of his drivers? The answer follows in bold letters— SUCCESSFUL HANDLING OF DRIVERS MUST BE PLANNED AND SPECIFIC.

Here is how Dr. Shellow whom we have already mentioned, worked out a successful plan with a management for handling and training of drivers in a commercial vehicle organization. What

(TURN TO PAGE 56, PLEASE)

STEWART TRUCKS HAVE WON

STEWART BUILDS A *Complete*

"BUDDY" FEATURES

- ★ 100% Truck Chassis.
- ★ Economical 4 Cylinder Truck Motor.
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Chassis F. O. B. Buffalo

At last! A light delivery truck actually designed and built throughout for "multi-stop" delivery service. It's the most appealing, economical half-ton delivery truck ever offered for commercial service. Every unit of the new BUDDY Stewart is a strictly *truck* unit...and every unit is built with an eye to lowest cost per package delivered. The BUDDY Stewart has a small, flexible 4-cylinder engine that's easy on gasoline and oil and long on mileage; you can expect 20% to 40% savings. This small, yet sturdy engine will whisk along a maximum load at 40 miles per hour.

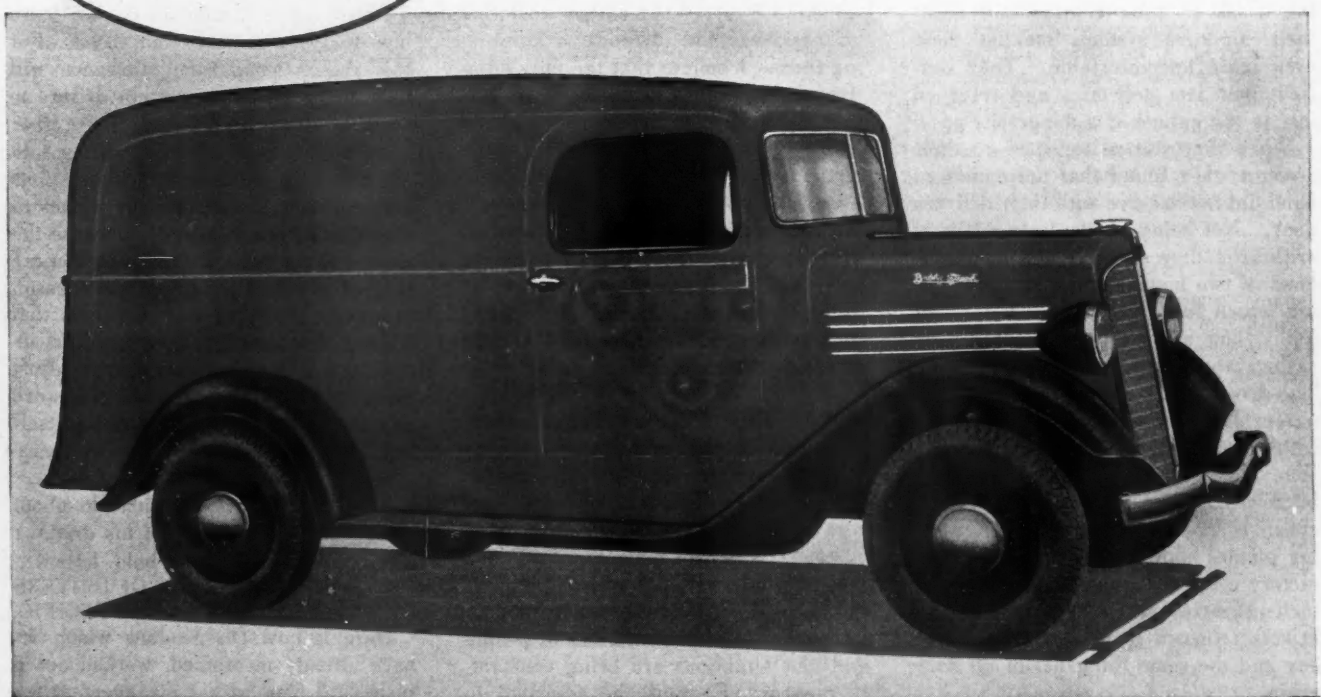
Extra large brakes and clutch, a husky synchro-mesh transmission and the full floating truck axle are all integral parts of this new Stewart idea in low cost delivery. They are essential to handle the 200 to 300 daily stops that soon batter into the repair shops vehicles not especially designed for this kind of service.

Add all these features to the easy riding and steering qualities and the sleek, modern lines of the new BUDDY Stewart, and you'll understand why this is by far the surest investment in low cost delivery truckdom has ever known.

Buddy Stewart

A RADICAL DEPARTURE

in 1/2 Ton Delivery Truck Design



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BY COSTING LESS TO RUN

LINE OF TRUCKS . . .

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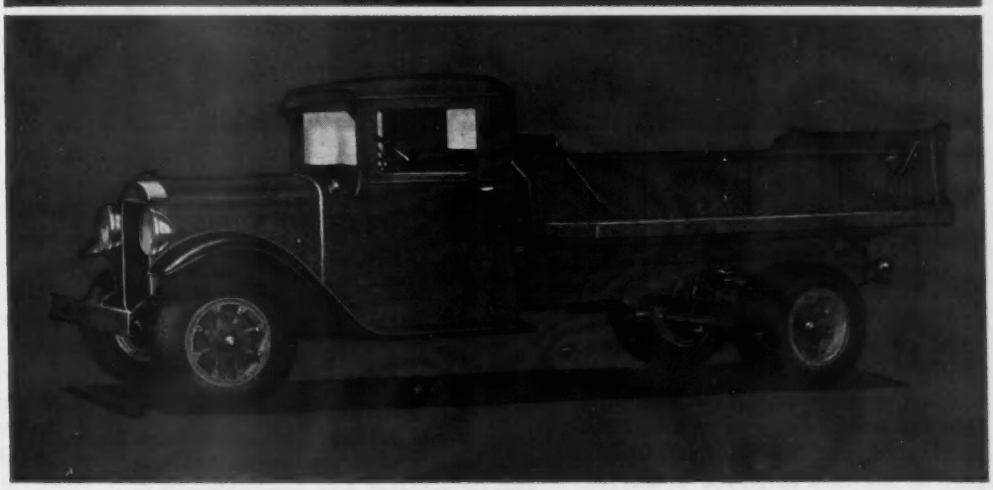

MODELS

Capacity	Chassis Price
½-ton	$495
1-ton	$685
1½-ton	$695
2-ton	$895
2½-ton	$1095
2½-ton	$1395
3-ton	$1695
3-ton	$2190
3½-ton	$2490
3½-ton	$2890
3½-ton	$3090
3½-5-ton	$4090
5-6-ton	$5490
7-8-ton	$6290

All prices f.o.b. Buffalo

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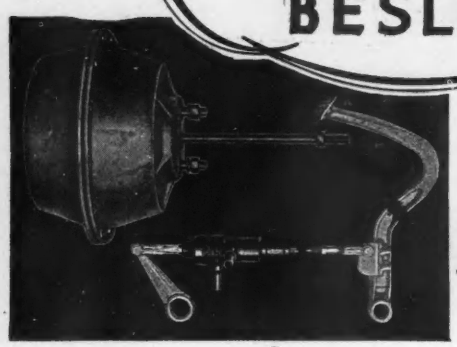

Engineered POWER BRAKE OUTFIT for 1935 FORD and CHEVROLET TRUCKS
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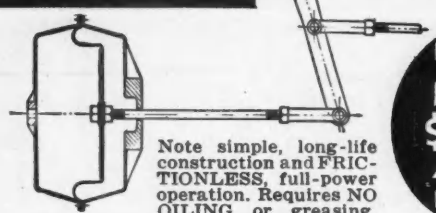

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LATHAN CO. Inc. (LATHAN SINCE 1911)
SAN FRANCISCO—Polk & Pine Sts. DETROIT—477 Selden Ave.

Tips on Driver Training

(CONTINUED FROM PAGE 53)

follows is not unusual. Other organizations working together with psychologists are accomplishing these results.

Along with carefully standardized selection tests which reduced accident liability in new drivers from 14.1 per cent of 161 men employed to 0.6 per cent of 162 men selected by the tests, an accident clinic was set up. The accident record of all old operators was studied, and those who exceeded the average were put through the tests in order to determine whether the fault lay with lack of innate ability or was due to some temporary cause. Then by means of a clinical interview which revealed such matters as home conditions, physical status and attitude toward their job, the contributing factors were discovered. Treatment in the way of referring for proper medical care, social service, and reeducation was given, and over 80 per cent of the chronic accident men were returned to service and have made good records ever since.

BESIDES the accident clinic, a program of conferences was started. These conferences were held around a large table with not more than 20 men at a time. They were informal in nature but were conducted by a trained conference leader who had a definite plan arranged beforehand covering the progress of the discussion. Stimulating questions were put to the group concerning ways of preventing accidents, and out of the experience of the individual members, general rules were drawn up to which each member agreed. The enthusiasm for thus working out their own problems stimulated them to carry out their own decisions, and accident reduction became a matter of pride throughout the entire group.

Periodically, an instructor rode with the truck driver. He had a rating sheet which listed all the important points in safe driving. He carefully noted the bad habits which the driver had acquired and checked them on his list. At the end of the follow-up, he sat down with the driver and pointed out the items checked. When necessary he demonstrated the correct manner of operation. This frank discussion appealed to the men, who would have resented a confidential report sent in to the management.

And finally a contest was run over a period of years. A button was given to all those who had a perfect record for a year, and a record of five years without an accident, a gold buttom was presented. The men were proud to wear these buttons which represented the appreciation of the management for their efforts in safe operation.

OUR story has shown two ways which management may deal with drivers. Obviously most readers will agree that the second method of handling and training of drivers is most profitable. It will not do to have just anybody with the loudest voice, the most sarcastic manner, or the toughest in appearance in charge of drivers. The handling of drivers should be carried on or supervised by a person who understands drivers and their problems and at the same time has the good practical sense to know what their behavior means to the company.

The psychologist plays an important part in saving the company money in the handling and training of drivers. He can help in three ways.

1. Reducing the number of accidents by the use of tests in selection.

2. Preventing accidents of men employed by proper training and careful observation of drivers' habits.

3. Assisting fleet owners in working out ways for handling, training, supervising, and making drivers commercially efficient, personally happy and an asset to the organization.

Greater profits

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That genuine Bendix-Westinghouse Air Brakes perform as well in the accounting department as on the highway has long been an accepted fact • A thousand examples of this proficiency lie in the authentic records of any of the country's foremost fleet operations • Perfect, automatic equalization, longer lining life, elimination of driver fatigue and an ability to permit the safe, full use of modern speed, power and carrying potentialities, stamps Bendix-Westinghouse the world's most economical brake control • And now, with genuine Bendix-Westinghouse Air priced and powered to meet the demands of the heaviest to the lightest commercial carrier, there is no reason for anyone to be satisfied with lesser brakes, costing more in the long run • For complete information, relative to any phase of genuine Air Control, consult your local Bendix-Westinghouse distributor, district office or, write direct to the manufacturer. Your communication will be handled promptly.

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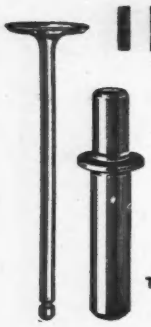

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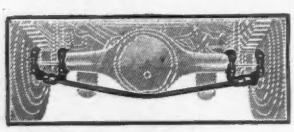

Prevent sprung axle housing, oil leaks, excessive tire-wear. Easy to install.

Ford 1933-35 1½ ton, state year.....$6.50
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THE QUALITY R-M TRADE MARK
The COMPANY and the PRODUCT

Rinshed-Mason Company are one of the largest lacquer manufacturers in the industry. All R-M products are well known, on the production line where cars are manufactured, in the refinishing shop and garages where truck fleets are refinished.

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MADE IN DETROIT WHERE MOTOR CARS ARE MADE !

(CONTINUED FROM PAGE 77)

names and the names are lettered on each side of the cowl. The practice of naming trucks came about one day when E. W. Scudder, publisher of the Newark Evening News, was admiring what was at that time the latest addition to the fleet at the platform. He said, "That is a snappy truck." And Mr. Kramer answered, "All right. 'Snappy' it is," and took the truck out to the shop and had the name "Snappy" lettered on it.

WHEN another new truck was finished Mrs. Kramer looked at it and said, "That truck is just as snappy but it is also a little beauty." So the second streamlined truck was named Beauty. The other names range through such a choice as Busy, Dandy, etc. Mr. Kramer points out that it is not just sentimental nonsense. He points out that ships and Pullman cars are named and that the names create interest and a little better handling by all concerned and that names have interest value, and consequently a sales value. To an old Pullman car name reader like us that all sounds very logical.

The employees party at Christmas time is a classic. Every driver who manages the year without an accident receives $100 as a bonus. Those with one minor accident involving no personal injury get $50 and two minor accidents rate the driver a $25 bonus. It cost Mr. Kramer $2600 last Christmas in awards, $2200 of which went in $100 chunks. In addition, all hands get a week's salary as a Christmas present. All employees likewise get one week vacation with pay during the summer, and they get paid whether they work or not if illness is the cause of incapacity.

Mr. Kramer has 40 employees and there is no bookkeeper among them. He keeps his own books, but he did not say when.

Poultry and Egg Farmers' Cooperative Operation

(CONTINUED FROM PAGE 30)

particular trucks (or curtailed mileage) and oil changes are scheduled accordingly. The master card for each truck accommodates oil records for a 12-month period. Oil is reclaimed, but this firm finds it more convenient to contract for this work on the outside than to do the job at the plant.

Another method by which Mr. Rodda

What's Your Truck Doing All Day?

This Device Tells Every Move the Truck Makes!

Idle time—busy time—day and night (and overtime, too!)—all on a waxed chart (see at left). Here, for example, is a 2-hour delay, *and you can put your finger right on it!*—and then *correct it!* Write for Bulletin C.... The Service Recorder Co., 1422 Euclid Ave., Cleveland, O.

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Investigate the new method of reducing cylinder wear and shortening time required for overhauls. These new piston rings of frictionless bearing-metal are saving truck owners big money everywhere. Write today for details.

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Double Your Net Operating Profit!
Save:
20% Gasoline
40% Oil
40% Repairs
45% Tires and Brakes
and eliminate cause for 65% of accidents.

$5.75 Net
SENT ON FREE TRIAL
The Fleet Operator who is also a business man seeks ways to increase net profits and means of limiting liability. He is seriously interested in protecting his investment in equipment and in protecting others' life and property.
The up-to-date operator never refuses to learn, to know the facts—such as the exact savings he can effect by using Chicago Governors on his fleet, under his every-day working conditions. These are facts easily established. Do as hundreds of other fleet operators have done . . . take advantage of our 30-day free trial offer. It's the only way you will ever know what a modern governor can do for your fleet.
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ALCO
FOUR WHEEL DRIVE
Converts your Ford or Chevrolet truck into a RUGGED, POWERFUL FOUR WHEEL DRIVE able to do the job with ease where much heavier trucks fail, and at a fraction of the cost.
Write
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ALMA, MICHIGAN

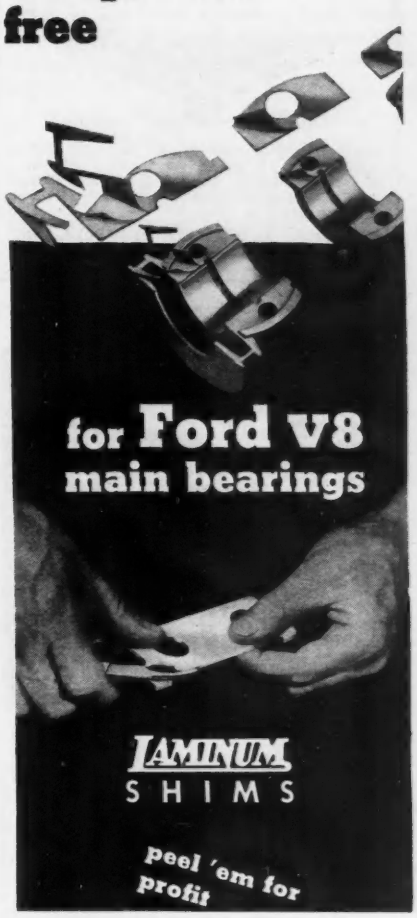
breaks down maintenance information to obtain detailed knowledge of truck operation is by means of a truck repair report. This report covers repair on the motor, clutch, transmission, drive line, differential, chassis, brakes, body sundry attachments. In addition each division is segregated to permit report on exact trouble. For example, in case of motor repair, the mechanic specifies what part of the motor went haywire, whether pistons, rings, etc. Watching this cumulative record closely enables Rodda to determine whether or not a certain part of a truck has inherent weakness, or it may be that an undetected maladjustment of a particular truck leads to habitual breakage at a certain point. In the former case, the matter is taken up with the manufacturer, and in the latter case lubrication and inspection is checked to find the difficulty.

ANOTHER valued record used by Rodda to increase the sum total of available truck information might be called a "specification record," made for each truck. This is particularly valuable in the ordering of repair parts for individual trucks, for this record specifies the size and type of rings, pistons, battery, brakes, valves, etc., of the truck. In addition, this record gives the date the truck was put into service, and when repair work was done.

The paint shop last year did 41 paint jobs on trucks at an average cost of $40.70. Of course, this does not keep the gun man busy all the time, but when not painting he is occupied in the body building shop where nine new bodies were built last year ranging in capacity from 1 ton to 5 tons. Average cost was $273.31. Five bodies were rebuilt at an average cost of $150.

THE company is standardizing on duralmetal bodies (average cost $1000) which is a higher first cost than wood, but the longer life and increased payload due to lighter body weight, as well as the salvage value of the duralmetal, warrants the greater first cost of these metal bodies, Rodda affirms.

"Low road cost per mile is a very important item of fleet management," Mr. Rodda pointed out, "but to maintain efficient long life of a truck involves greater attention and demands more exact knowledge of operating conditions. In fact, if the fleet superintendent's energies are directed toward preserving the life of a truck, safeguarding it against undue wear and tear, the road cost and uninterrupted service will take care of itself."

sample set free


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Order from your local jobber.
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Also Laminum shims for main and connecting rod bearings for all earlier model Fords.
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PURIFY
crankcase drainings
for as little as
3 - 6 cents
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When sending for complete information let us know what your new oil purchases amount to each month; gal.——, per gal.——
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Add-A-Charger

THE Add-A-Charger is announced by the Automatic Electrical Devices Co., Cincinnati. The first charger unit is capable of servicing two to three batteries in a 24-hour period. Add-A-Chargers may be added as necessity demands. And no matter whether one battery or five or six are "on the line" the charging cost remains constant—about five cents per charge. The Add-A-Charger has a 10-amp. charging rate, enabling it to bring up a dead battery to full charge overnight, and the rate "tapers" down as the battery gathers its charge so that no damage to the battery can result. Another model, the Serv-A-Charger, is a portable unit with the same charging rate and characteristics as the Add-A-Charger, and is designed specifically for the truck owner who desires to charge only one battery at a time.

Add-A-Charger

REDUCE UPKEEP

Use Tin-Plated Pistons to cut *your* maintenance costs. That is why they are original equipment on Chevrolet, Buick, Pontiac, Oldsmobile, Studebaker, Mack, White and GMC—and being seriously considered by others. Test them yourself, or write us for complete details.

CIRCO PRODUCTS CO., Cleveland, O.

OSHKOSH
4 Wheel Drive Trucks
A proven product. 1½ to 10 ton capacity. Write for complete information.
OSHKOSH
Motor Trucks, Inc.
Oshkosh, Wis.

Series 900
WALKER
Hydraulic Jacks
Give you extra value features for car, truck or bus equipment and heavy duty bench work or shop jobs. One of ten sizes—capacities 1½ to 20 tons—at left. Order from your jobber—and see the complete line of Walker Jacks for every service need.
WALKER MFG. CO.
Racine, Wisconsin

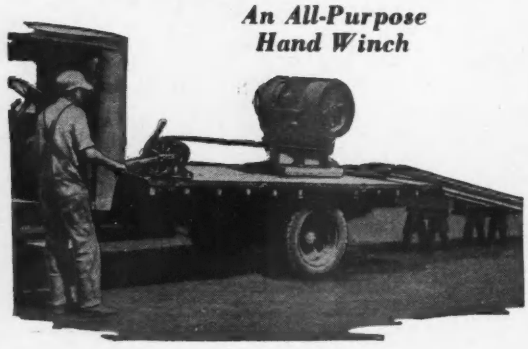
Fostoria TiteSeal

ORIGINALLY developed for the United States Army Air Corps, Fostoria TiteSeal is now made available to the automotive trade. Fostoria TiteSeal is said to permanently seal leakage of gas, vapor, oil, gasoline, steam, water, grease, alcohol, glycerin and special anti-freeze solutions and is indestructible, non-hardening, non-solvent, tight-gripping, vibration-proof, non-shrinking, non-cracking and non-crumbling.

Complete descriptive literature may be obtained on request to The Fostoria Pressed Steel Corp., Fostoria, Ohio.

HANDY HOIST **POWER • SPEED • STRENGTH**

An All-Purpose Hand Winch



A 5-ton Hand Hoist for trucks, trailers, wrecking cars, etc. Also suitable for structural erection, handling boilers, safes, machinery and other hoisting, hauling or lifting. All steel construction. Has two speeds, geared 4 1/3 to 1 and 23 to 1. Positive internal brake.

Cable drum is 5" in diameter and 8" long with flanges 3½" deep. It carries an evenly spooled 160 feet of ⅝", 250 feet of ½", 325 feet of 7/16" or 440 feet of ⅜" wire rope.

Compactly built, weighing only 125 lbs. Dimensions 16" x 20" x 13". Capacity 5 tons.

$75
Weighs only 125 lbs.

ALLOY STEEL & METALS CO.
1862 E. 55TH STREET
LOS ANGELES, CALIF.

Eaton Enlarges Plant

Eaton Mfg. Co. has let contracts for the construction of additions to two of the company's 12 plants. An addition will be made at the Saginaw plant of Wilcox-Rich Corp., a subsidiary, to care for increased tappet and valve seat ring orders, and at the Eaton spring plant, Detroit. New equipment will increase production at the bumper plant, Jackson, Mich.

Dugan Resigns as Shuler Head

Walter E. Dugan has resigned as president, general manager and director of the Shuler Axle Co., Inc., after being the head of this concern for 13 years.

Dodge Truck Deliveries Ahead

Deliveries made by Dodge dealers of commercial cars and trucks from Jan. 1, to Aug. 10, this year, total 34,362 units. This is an increase of 5994, or 21 per cent, over the same period last year when 28,368 deliveries were made.

Gasoline Consumption Up

Gasoline consumption in the first five months of this year was 6,488,413,000, an increase of 3.6 per cent over the corresponding 1934 period.

Chevrolet Ups Butler

E. C. Butler has been made assistant manager of the service and mechanical department of the Chevrolet Motor Co. in Detroit headquarters.

Lanova Diesel in New York

The Lanova Corp., which controls the American patents on the Lanova high-speed Diesel engine, invented by Franz Lang, has opened offices at 369 Lexington Ave., New York. A. Wielich is president.

Stewart-Warner Reports Profits

The Stewart-Warner Corp. reports a net profit of $1,020,491 for the first six months of this year which compares with $540,260 net profit for the corresponding period of 1934.

Trucks at New York Show

Twenty-three passenger car manufacturers and four truck producers have drawn for space in the New York Automobile Show to be held Nov. 2-11. Chevrolet, Dodge, Reo and Willys are the four producers who will show commercial vehicles.

Turning Signals Compulsory

According to an interpretation just made, trucks in Pennsylvania will have to be equipped with directional signals if they are so constructed "that the outermost edge of the body is greater than 24 in. from the center of the steering post."

FWD 25 Years Old

July marked the twenty-fifth anniversary of the founding of the Four Wheel Drive Auto Co., Clintonville, Wis. A 63.4 per cent increase in sales for the first six months of the year over the same period in 1934 marks the anniversary.

Dodge Truck Goes Synthetic

The new Dodge truck plant is being equipped for finishing bodies and sheet metal in synthetic enamel. Conditioning of the paint booth and oven temperatures to facilitate application of the new finish is under way.

Federal Anniversary Brochure

The Federal Motor Truck Co. has issued a handsome brochure entitled "Twenty-five Years of Federal Trucks" to commemorate a quarter of a century of production. The story deals with the growth of the company through its present organization.

Three-Way Dump Patents Valid

The Commercial Shearing and Stamping Co., which holds valuable patents on a three-way hydraulic dumping system for truck bodies, announces that its patents were recently held valid in a Federal court decision.

Nebraska Brake Law for Trucks

All trucks and buses operating in Nebraska and having a gross weight exceeding 12,000 pounds are required to have power brakes, auxiliary brakes or some standard type of booster brake equipment under a new law that became effective last month.

Fitzpatrick Joins Algoma

James R. Fitzpatrick has been appointed director of sales of the technical division of the Algoma Plywood & Veneer Co., Chicago.

FORGING A NEW LINK BETWEEN NORTH AND SOUTH
You'll find Edwards on the job helping The Mason and Dixon Lines, Inc., forge another new link between the North and South. This line operates a daily service from Atlanta, Ga., to New York City and connects Knoxville, Chattanooga and Philadelphia. Says E. W. King, President, "We have in our fleet 10 Edwards semi-trailers and are more than pleased with their service, having run them more than a million miles without a road failure." It will pay you to investigate Edwards before you buy semi-trailer units.
SOLD AND SERVICED BY . . .
STUDEBAKER TRUCK DEALERS
AND AUTOCAR BRANCHES
Dixon Lines
EDWARDS
QUALITY
SEMI-TRAILERS
EDWARDS IRON WORKS, INC., SOUTH BEND, INDIANA

COMMERCIAL CAR JOURNAL

●

With 30,000 Circulation Monthly

Now Has More

● **CIRCULATION**

In FLEETS, Commercial Car Journal circulation offers 39% more than are covered by any other publication.

In TRUCK TRADE it provides 35% more outlets than elsewhere available.

● **EDITORS**

COMMERCIAL CAR JOURNAL has a Directing Editor . . . an Editor . . . a Managing Editor . . . a Technical Editor . . . a Detroit Editor . . . an Art Editor . . . and a corps of Field Correspondents. That is why its Editorial Pages are greater in number and better in quality.

● **EDITORIAL PAGES**

Over a period of 4 months, compared with its nearest competitor, COMMERCIAL CAR JOURNAL had:

70% more pages of Editorial

106% more pages of Feature Articles prepared by its own staff

64% more pages of Descriptions of Manufacturers Products

34 Pages of Tabular Matter, Specifications, etc. of which Competitor had NONE.

● **ADVERTISING PAGES**

COMMERCIAL CAR JOURNAL advertising increased 90% in the first half of 1935, compared to the same period last year.

For the first half of 1935 COMMERCIAL CAR JOURNAL carried 90% more advertising pages than for the corresponding half of 1934. Compared with its nearest competitor, COMMERCIAL CAR JOURNAL had over 1/3 more advertising

● **THAN ANY SIMILAR PUBLICATION**

COMMERCIAL CAR JOURNAL

A CHILTON Publication

Chestnut and 56th Streets, Philadelphia, Pa.